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Aspects of Rail Passenger Policy in Canada

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Canada

ASPECTS OF RAIL
PASSENGER POLICY IN CANADA

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FOREWORD

The Research Branch is pleased to issue this report on "Aspects of Rail Passenger Policy in Canada" by Professor David McQueen as an important contribution to the serious debate which is underway over the present and future status of railway-passenger service in Canada.

The contents of this report complement the long-standing program of interest and work in this area on the part of the Research Branch. The report also corresponds to the Commission's statutory authority and responsibilities in the area of the provision of railway-passenger services which are contained in the Railway Act and the National Transportation Act.

Professor McQueen's report covers a variety of important issues pertinent to VIA Rail Canada. These include the institutional arrangements between VIA and the operating railways and VIA and the government, costing questions and operating contracts, equipment, levels of service, comparisons with Amtrak, and specific conclusions based on the evidence amassed by Professor McQueen. Professor McQueen distinguishes between the services to be provided by transcontinental trains, in the Quebéc-Windsor corridor and in remote areas and puts forward imaginative proposals with respect to each one of them.

The release of this report at this time is particularly apposite. Since VIA's formation in 1977 to take over the management of the bulk of intercity passenger services from CN and CP Rail, there has been much speculation and commentary on the future of VIA and its services, but, absent any legislation defining VIA's mandate, there has not been any significant public or parliamentary debate over this issue which is of concern to all Canadians. This report should contribute to correcting this deficiency.

The views contained in the report are those of the author only and do not necessarily reflect those of the Canadian Transport Commission.

Yves Dube
Vice-President Research

Canada

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PREFACE

This study is the outcome of a research contract signed in the summer of 1983 between the Canadian Transport Commission and the author. The main substantive clauses of the contract read as follows:

> To produce an economic analysis of the problems surrounding the delivery of railway-passenger services in Canada and related surface modes of transport with a view towards understanding the economic and other institutional problems which stand in the way of inter-modal common carriage of passengers in Canada.
>
> Among the issues to be addressed are those pertaining to VIA Rail Canada and a comparison with Amtrak in the United States; various approaches to delivering national versus regional services; inter-connections and multimodal terminals, and a discussion of realistic alternatives for the future of integrated railway-passenger services in Canada with their socio-economic implications.
>
> The paper is both conceptual and empirical in nature and will employ existing data sources wherever possible.

Since this is a long document, readers of varying interests and degrees of patience may appreciate some early guidance through it.

Readers who wish to know, above all, what major changes are recommended in the status, powers and policies of VIA Rail Canada should go directly from this point to the Summary of Conclusions beginning on page 5.

Should they then wish to know more of the specific argument and evidence lying behind the recommendations, they should read chapters 3 through 8, starting on page 79.

Chapters 1 and 2, starting on page 23, will be of interest to those who wish also to know what framework of economic analysis has been applied to the affairs of a subsidized public enterprise, and how VIA has been fitted into the larger context of passenger transport in Canada. As to the rest of this Preface, it tries to answer some of the questions about scope, methodology and sources that will arise in some readers' minds.

The scope and methodology of the study have been much affected by the particular circumstances surrounding its production. In part because of the extreme and costly obsolescence of much of the equipment now being used by VIA, and in part for other reasons, major capital investment and other policy decisions appear to impend regarding rail passenger service in Canada. For this reason, the study has been produced subject to tight time constraints. Hence the decision not to try to address in it the full range of economic and other issues in rail passenger service.

Notably omitted, for example, is the issue of whether, outside a few remote areas with special transportation problems, there should continue to exist in Canada any rail passenger service at all. For reasons explained in Chapter 1, the decision has been taken to leave debate on that eminently debate-worthy question to others. What is instead explored here is the different issue of how, if we make a possibly realistic assumption about the rough size of the passenger-train network that traveller plus voter demand might cause to exist in Canada over the next ten years, that network might be operated most cost-effectively. Even within this limited context, it may be objected that "demand" and "cost-effectiveness" are not independent of each other. They will in practice interact. But while this interactive relationship does receive attention at certain points in the study, it must be bluntly admitted that lack of time has prohibited any attempt at proper modelling of it throughout. To the extent that the study is deemed worthy of follow-up, something more comprehensive along these lines can and should be done.

Time constraints have also much affected the statistics-base and other detailed methodology of the study. Attention should be drawn to the directive in the terms of reference to, "...employ existing data sources wherever possible." Transport statistics and other data are among the more notoriously tricky of their general species to produce, and "quick and dirty" varieties of them are, accordingly, apt to be of particularly suspect reliability. Fortunately, a considerable amount of new data and data-analysis relating to Canadian rail passenger service has been generated by government, academic and other sources over the last few years. More would be still better, but the existing total amount is enough to have obviated the necessity of any very long stretches of seat-of-pants navigation over the subject-matter.

Essentially, therefore, the study is a "think-piece", based on existing data and analyses, lodged both in documents and in the heads of persons known to be especially well-informed and thoughtful about transporting people by rail. Literature search, personal interview, and subsequent reflection upon both, in the light of a few, mostly old and well-known, principles of economic analysis, have been its three main methodological pillars. The chief literature employed is listed in the bibliography.

Given this methodology, a great debt has been incurred to busy people at the Canadian Transport Commission, the Ministry of Transport, VIA Rail Canada, and Amtrak in the United States, who took so much of their valuable time to improve the author's grasp of major facts and issues in rail passenger transport. In general, it would be invidious to list here any particular names, but to this rule there must be one exception. An author who tries to write something useful about a complex subject within a short time stands unusually in need of a stout-hearted backup person, not just to guide enquiry and open doors, but also to provide psychological uplift and encouragement at moments of difficulty. Dr. Ken Mozersky, Director of Economic and Social Research at the Canadian Transport Commission, was everything that one could have wished for in this role, and so merits special thanks here.

That said, the customary statement is in order that ultimate responsibility for all opinions, errors and omissions in the study rests entirely with the author.

SUMMARY OF CONCLUSIONS*

Like all such preliminary sections, this part of the study strives chiefly to provide to the busy reader a quick, initial summary of the principal recommendations.

It also attempts a little more than this, however. The study as a whole proceeds from a major initial assumption, and unfolds in accordance with three major guiding principles. All of these are asserted here, prior to the summary of specific recommendations.

The reader may appreciate some information about the provenance of the assumption and the guiding principles.

The initial assumption emerges and is discussed in Chapter 1 below.

As to Guiding Principle A, the different chapters of the study in which its various parts are worked up and discussed are indicated separately as appropriate.

The origins of Guiding Principle B, dealing with the immense importance of reliability _under relevant operating conditions_ of railway passenger equipment, and of re-learning in this field how to jog technologically before we attempt to sprint, are not quite so obvious. Some are to be found in the account of the interview with Amtrak's Chief Equipment Engineer in Chapter 3. Others, however, lie really in the author's observation over the years of the introduction, worldwide, of successive generations of new technology by both the airline and rail-passenger industries. Even more specifically, the observed adventures and misadventures in Canada of the Turbo and LRC passenger trains have had some particular influence on Principle B.

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* Note: For brevity, in the rest of this study, VIA means VIA Rail Canada Inc., CN means Canadian National Railways, CP means CP Rail, MOT means Ministry of Transport, CTC means Canadian Transport Commission, and Amtrak means the National Rail Passenger Corporation in the United States.

Finally, Guiding Principle C draws quite heavily on Amtrak experience, and also on interviews with VIA personnel describing some of the frustrations they have encountered in trying to gain room to run their enterprise in accordance with quite common-or-garden rules of business efficiency. It also owes something to the author's general professional study over the years of public enterprise and regulated industry.

Following the Guiding Principles, the specific recommendations are listed in what is thought to be the most useful and readily understandable order for the reader needing a quick summary. This is not the same order in which it has been found convenient to develop the recommendations over the course of the subsequent main text. To each recommendation in the summary, however, will be found attached chapter and page numbers to facilitate cross-referencing.

Major Initial Assumption

> That the Canadian public and the federal government wish to see continued, but on a more cost-effective and otherwise satisfactory basis, a rail-centred passenger network of roughly the same size as the present VIA network.

Readers are sincerely urged, now, and again in Chapter 1, to pause and reflect carefully upon this assumption. It contains a large element of what is conventionally termed "political judgment". The latter is really a shorthand way of referring to all manners of consideration which are believed likely to impinge importantly upon future policy-making in this area, but which do not flow at all, or primarily, from economic theory and analysis. This effectively defines the study as a search for economic solutions within a set of pre-determined, non-economic constraints.

Three Major Guiding Principles

Principle A

That the principal goals of VIA should be as follows:

(i) To provide, in the Québec/Windsor corridor, a progressively higher-speed and otherwise more useful passenger service to the public, on a basis of a rising ratio of operating revenue to operating cost, and with a view to ultimate profitability (see Chapters 2 and 4);

(ii) To provide transcontinental services east and west of Montréal that will serve the Canadian public well, that will provide an unequalled opportunity to appreciate the extent and diversity of Canada, that will both directly and indirectly stimulate the Canadian tourist industry, that will provide convenient service between important centres of population along the routes, and that will be for all Canadians a source of national pride and of enhanced consciousness of national unity, Canadian history, and the heritage of rail transport in Canada (see Chapters 2 and 5);

(iii) To provide over the rest of the VIA network, including "remote-area" portions (a term here taken to include smaller population centres along the more isolated sections of transcontinental routes), a basic passenger transportation service, either by rail, or, where appropriate, by other common-carrier transport modes furnishing a service at least as good as, and if possible better than, the service now existing. The words, "...at least as good as, and if possible better than," refer to the service characteristics of speed, reliability, frequency, comfort, and connections with other VIA services (see Chapters 2 and 6);

(iv) To achieve, partly through the provision by the federal government of capital financing to replace obsolete equipment and facilities by new and more cost-effective equipment and facilities, and partly by other important means, a progressively reducing tendency in the federal government subsidy necessary to meet VIA operating deficits (see Chapters 2, 7 and 8).

Principle B

On the basis of much hard experience in recent years, in North America and elsewhere, policy with respect to VIA, while ever alert to significant technological improvements in rail-passenger transport the world over, should in general not attempt spectacular, quantum leaps into the technological future. In this connection, it is not nearly as widely appreciated as it ought to be how much less than quantum leaps are in fact the justly admired accomplishments of the Japanese and French railway systems in respect of high-speed trains. Not only have those apparent leaps occurred in far different rail-marketing environments than Canada's, but behind them lie a wealth of previous, long-sustained, step-by-step experience in the research, development, construction, on-going operation and maintenance of progressively faster electric passenger-train services. Nothing like such an experience-base exists today in Canada, and the lack of it in the United States has posed many problems for Amtrak, as related in Chapter 3 of this study.

If Canadians are wise, we shall proceed on a more patient, humble, step-by-step basis, learning as we go, remembering that the particular operating environment of northern North America will doubtlessly continue to elicit a somewhat distinctive pattern of appropriate technological response, and generally making sure that we know what we are doing before we invite the public to board new trains. In any case, what we need are trains suitable to our circumstances, and if these do not turn out to be, at least for many years, as fast as the fastest trains in the world, that is but a minor prestige problem, with which we have managed to live through all our railway history to date. Far worse problems are those too frequently associated with highly publicized attempts to leap too far too fast: massive cost-overruns, highly embarrassing and costly equipment failures, expensive expedients to solve problems that should never have arisen in the first place, and deepening public cynicism and disillusion about the ability of Canadians to do anything complicated right. For all that it has been in existence for more than 150 years, the passenger train remains a very tricky and unforgiving piece of technology, especially when made to run fast in regular service. It demands, and sooner or later exacts, great patience and respect from those charged with designing, operating and maintaining it.

Principle C

A lack of clear, consistent government guidelines and appropriate supportive policies (stemming, it may be, from fierce, unresolved battles within government concerning objectives at the most basic, whether-or-not level) can be, of course, a grave disadvantage to a public enterprise like VIA. Paradoxically, however, enthusiastically overdone and insufficiently conditional government support may produce many of the same evils in the long run, such as unsatisfactory service performance attributable to trying to spread the enterprise's resources too thin, and to trying to deliver on government assurances to the public sooner than reliable delivery can in practice be made. Also, the appearance of insufficiently conditional government support encourages suppliers of labour, equipment, materials and other inputs to the enterprise to raise their demands and charges without much anxiety as to whether this will cause the enterprise to falter or founder. The government, it may be felt, is so publicly committed to the enterprise that it will simply have to pay up in the end. This type of situation might be described as the "Olympic Games Syndrome."

Optimal government support of public enterprise, by contrast, is, and is clearly seen to be, firm, yet neither unqualified nor unlimited. Goals for the enterprise should be clearly stipulated, along with breakdowns of these goals into operational sub-categories to facilitate performance-evaluation. The powers and resources necessary for the enterprise to accomplish a first stage of progress towards these goals should be fully provided. But it should be made clear to all that governmental willingness to back second and further stages of progress will be importantly dependent on performance results in the first stage. Something like this is how the United States Congress has ended up supporting Amtrak, and it seems to have had some very positive effects on Amtrak performance and morale (see Chapter 3).

The desirability of a staged, incremental approach to the improvement of rail passenger service in Canada is a major, unifying theme of this study. It is advocated for three reasons: to ensure that, technologically, we do not attempt to sprint before we can jog; to keep VIA under pressure to perform well, while protecting it from becoming an excessively vulnerable (and therefore, in the end, poorly performing) "sitting duck" for everyone who has something to sell to it; and to give the Canadian public more opportunities through time to signal clearly what it wants from its tax-subsidized rail passenger service.

Recommendations

(VIA Statute, Governance, Powers, etc.)

(1) VIA should be properly incorporated, under a statute of its own, as a proprietary crown corporation reporting to Parliament through the Minister of Transport. Among other things, the statute should set forth VIA's principal goals (see Principle A above) and grant it sufficient powers with which to attain those goals. VIA should have its own, highly competent board of directors, structured to provide a suitable blend of accountability to Parliament and public, and disinterested but

well-informed overseeing of the efficiency of its railroading and general business performance (see Chapter 7, pages 179 and 182).

(2) VIA should be specifically incorporated as a railway company. Even if it does not, as yet, own any of its own trackage, a railway company is what it essentially is, and ought to be perceived as being. It is a railway company that the Canadian public should expect to be professionally managed, by professional railroaders, in the same manner that they expect in the cases of such enterprises as CN, CP, British Columbia Railway, Ontario Northland Railway, etc., (see Chapter 7, pages 179 and 182).

(3) Further to the above, as both a railway company and a crown corporation, VIA must, of course, obey necessary safety and other railway regulations, and be fully accountable to Parliament, through the Minister of Transport, for performance in relation to the goals set for it by Parliament. But powers and responsibilities must be in reasonable balance, and VIA management must have the same decision-room as do other Canadian railway managements to do a competent, professional job of railroading. Nothing would be more inimical to VIA's success than attempts to make most of its major policy decisions, and to direct its detailed, on-going operations, from ministerial or regulatory offices in Ottawa. The roles of MOT and CTC with respect to VIA should not, in general, be more extensive or directional than they are with respect to CN and CP (see Chapter 7, pages 179 and 182).

(4) Further to the attainments of VIA's goals, and following appropriate engineering and other studies, including analyses of Amtrak criteria in similar geographical and operating environments in the United States, regulations under the VIA statute should set forth certain practical, threshold or minimum criteria for the operation of VIA trains. Among other things,

these criteria should stipulate for all trains minimum numbers of passenger-kilometres per train-kilometres, and minimum ratios of train-revenue to avoidable cost. A phrase-in period of two years might be provided before these criteria became fully applicable, and capable of setting in motion the procedures to be recommended below for cases where the criteria were not being met (see Chapter 7, pages 179, 182, 183).

(Costing and Operational
Relationships with Host Railways)

(5) Both in the VIA statute and in the Railway Act, it should be clearly stipulated that VIA passenger trains are first-class trains, with operating priority over other classes of trains. It is much to be hoped that this will be mainly a back-stop provision, rarely if ever needing to be actively invoked, and that incentives to be recommended below will in practice do virtually all the work of ensuring proper, on-time handling of VIA trains. But there should be a back-stop (see Chapter 7, pages 179-184).

(6) The present CTC costing order R-6313, governing costing relations between VIA and its host railways -- in historical fact, a makeshift legacy of other times and other purposes -- is highly unsatisfactory, and should be replaced as soon as possible by a better system. Without this vital change, VIA cannot poosibly succeed, however much progress it makes on other fronts.

Mainly, the new system should provide, for the first time, a comprehensible accounting to the Minister of Transport and to Parliament of VIA costs, and clearer and more effective incentives to the host railways to handle VIA trains properly. It should also eliminate the intolerable and wholly unnecessary uncertainty and time-delay presently afflicting both VIA's and Parliament's knowledge of VIA costs.

Under the new system, VIA payments to host railways should be made up of the following three categories:

(i) Clearly avoidable costs of passenger-train operation, capable of being regularly monitored and audited by VIA representatives, acting under an appropriate provision of the VIA statute. For a cost to be included in this category, it must be clearly established as one which would literally disappear if the train were cancelled.

(ii) A fixed, arbitrary amount per passenger train-kilometre to provide some contribution by the passenger service to the fixed, joint and common costs of the operation of all trains. Since allocation of these costs is inherently arbitrary, it should be arbitrated once and for all by the CTC. The amount having been thus decided, it should then remain constant, except perhaps for an annual "cost-of-living" adjustment in relation to some suitable, pre-stipulated Statistics Canada index. Any subsequent argument by the host railways to CTC that they are being underpaid for passenger service should be entertained only in the contexts of categories (i) above, or (ii) below.

(iii) A performance-incentive payment to the host railway where its schedule-adherence and other handling of a VIA train meets pre-stipulated standards should be determined by CTC after appropriate consultation with VIA and its host railways, and with considerable attention being paid to comparable standards in the United States. Performance in relation to standards would be monitored in the first instance by VIA personnel, reported regularly to CTC and MOT, and reported to Parliament as requested (see Chapter 7, pages 179-181 and 183-184).

(7) Scheduling of VIA passenger trains should normally be negotiated between VIA and its host railways. Only in cases of serious, unresolved dispute should the matter be referred to CTC for arbitration. In any such arbitration, there would be a rebuttable presumption that VIA trains should be scheduled to run at least as fast as comparable Amtrak trains in comparable territory (see Chapter 7, pages 179-181 and 184-185).

(8) Practical reliance should not be placed on the invocation of "public duty" -- still less, "historic public duty"

-- as a means of inducing CN and CP to handle VIA trains on time, and otherwise satisfactorily. To fit VIA trains into the new, post-1967 world of CN and CP operations, under the National Transportation Act, it is vital that these railways should, when they do their share of the passenger job properly, end up modestly in pocket thereby. The performance standards should be tough, but when they are met, there should be no "chiselling" on the reward (see Chapter 7, page 185).

(VIA Corridor Services)

(9) VIA strategy in the Québec/Windsor corridor should proceed in general accordance with the following successive steps:

(i) Acquisition by VIA of full ownership and control over major maintenance and repair facilities for all corridor passenger equipment;

(ii) Completion by VIA and the manufacturer of the "debugging" of LRC equipment, and the achievement with this equipment of high levels of reliability in service and low maintenance costs;

(iii) Assignment of clear, first-class operating status to VIA corridor trains;

(iv) Implementation in the corridor of the proposed new basis of costing and performance incentives between VIA and its host-carriers;

(v) Transfer of corridor operating personnel on passenger trains to VIA employment under new collective agreements specifically oriented to passenger service (see below);

(vi) Replacement of remaining obsolete locomotives and rolling stock in the corridor by "Mark-II" LRC or other new equipment;

(vii) Commencement of a step-by-step process of construction in the corridor of VIA-owned segments of high-speed passenger track. This track should be so designed, in respect of alignment, banking, overhead clearances, total grade-separation, etc., as to be suitable for ultimate operation of straight-electric trains at speeds up to 260 kmh (160 mph). But it should also make maximum use of existing right-of-way lands, and the two ends of each new segment should connect readily with existing track. As each segment of new track is completed, it should thus become available for faster and more reliable operation of existing LRC and other diesel-electric-hauled equipment. The selection and scheduling of new-segment construction should be planned partly with this object in mind. The public should obtain some shorter-term return, as well as the longer-term future return in terms of a complete, straight-electric service, on its heavy investment in new track (see Chapter 4, pages 127-128).

(VIA Transcontinental Service)

(10) The transcontinental service should be re-equipped as soon as possible with sufficient new bilevel, head-end-powered equipment and new locomotives to cover three departures a week each way on both the eastern and western services. That done, the early returns in terms of ridership, revenues, costs, and general public satisfaction should be carefully assessed, and a decision reached as to whether further re-equipment investments seem justified -- and if so, along what lines, as regards range of accommodations, etc. Bilevel equipment now operating in the United States has proven so much more revenue/cost-effective than older single-level equipment, that a significant rise in the revenue/cost ratio of Canadian transcontinental service, and a reduced operating deficit, can be predicted as a result of bilevel re-equipment (see Chapter 5, pages 169-170).

(11) As an earnest of good intentions, and as a first step in re-building public interest in, and a larger clientele for, transcontinental service, pending the arrival of new equipment, the schedule of the western transcontinental service should be speeded up and returned to a "three-nights-out" basis, broadly as recommended in CTC's 1977 "Final Plan for Western Transcontinental Passenger Train Service". The earlier practice of originating and terminating the western service separately at

both Montréal and Toronto, with consolidation and separation of Montréal and Toronto sections at Sudbury, should also be restored, thus putting the national capital back in the transcontinental picture, and eliminating an unsuitably slow train from the Kingston-Toronto portion of the Québec/Windsor corridor (see Chapter 5, page 170).

(Remote-Area and Other VIA Services)

(12) All of these services should be reviewed in the light of the criteria recommended in (4) above. Where trains meet the criteria, they should of course be continued. If there are indications that their revenue-cost ratios could be substantially improved by re-equipment, a plan for re-equipment should be prepared and submitted to the Minister of Transport with a request for capital funding. A similar procedure should be followed where a train is not now meeting the criteria, but seems likely to be able to do so if it is re-equipped.

Where, in VIA's judgment, there appears little if any prospect of a train being able to meet the criteria, VIA, while continuing the service, should prepare, within a maximum period of one year, a "plan of Alternative Service", fulfilling the requirements of Guiding Principle A - (iii) above. Without restriction, such plans, power to implement which would be provided in VIA's statute, might include one or more of such alternatives as the following:

(i) Proposed substitution of a very different type of rail service such as the modern, bilevel rail bus referred to in a later recommendation;

(ii) Proposed conclusion of a 5-year renewable contract arrangement with a suitable bus company to provide over roads paralleling the route in question a service according to standards set forth in the body of the contract at the instance of VIA, and fully in accord with Guiding Principle A - iii;

(iii) A proposed agreement with a provincial government whereby necessary road links would be constructed to make possible a road bus alternative.

Having drawn up a "Plan of Alternative Service", VIA would immediately submit this plan to CTC, which would hold public hearings on the plan in the affected region. Following the hearings, CTC would submit a recommendation to the Minister of Transport and Parliament. The recommendation would approve the plan in original or modified form, would reject the alternative in favour of continuing the existing type of rail service, or would opt for the abandonment of the rail service without the specific substitution by VIA of any alternative service, on the grounds that sufficient alternative service already existed.

Upon receipt of the CTC recommendation, the Minister would opt for one of these three broad courses of action, not necessarily the one recommended by CTC. He might also, while accepting the general thrust of the CTC recommendation, modify it for submission to Parliament.

Where Parliament chose the course of continuing the existing type of rail service, the Minister, under the Act, would be required to provide to VIA a special subsidy sufficient to bring the revenue/cost position of the service up to the general threshold level for all trains. In all VIA financial statements and other relevant reports, information regarding these specially subsidized trains would always be shown separately (see Chapter 6, pages 176-177).

(13) The VIA statute should also contain a provision whereby a province, if it wished a VIA rail service extended that would not otherwise be extended because of projected failure to meet the threshold passenger-load and revenue/cost criteria, or if it wished to have maintained a VIA rail service that would otherwise be abandoned or replaced for the same reason, might

enter into an agreement with VIA to make up the difference and so ensure the service (see Chapter 6, page 177).

(Railbus)

(14) VIA should cause to be developed, with particular regard to remote-area services, a prototype for a modern, bilevel, "pay-as-you-enter" railbus. This rail-borne vehicle should be comfortable, offering, in addition to standard coach accommodation, "day-niter" seating. It should be capable of speeds up to 75 mph and have considerable accelerative properties. It should be capable of towing a light baggage car roomy enough for canoes, snowmobiles and other typical northern and remote-area impedimenta. It should also be capable of being operated "in multiple" with others of its kind. It should be equipped with two-way radio, in part for the purpose of being able to order in advance standard-menu box-lunches or meals for passengers, to be delivered at designated meal stopping points along the line (see Chapter 6, pages 177-178).

(VIA Employment and Collective Bargaining)

(15) The VIA statute should also contain provisions whereby, over a period of time, all of the persons doing work specific to the operation, maintenance, etc., of its passenger trains, including notably railway operating crews, would become direct employees of VIA. Where such persons were organized in unions, they would negotiate collective agreements with VIA. Fairly complex transfer provisions would be necessary in both respects. To induce operating crews to come over to VIA, it would probably be necessary to offer them the security of fall-back seniority rights with the other railways from which they came. It might be expected that the transition to direct employment by VIA of its own operating and other personnel, and to collective bargaining with them, would occur first in the

Québec/Windsor corridor, then spread later to other parts of the system (see Chapter 7, pages 185-186).

(16) In its collective bargaining, VIA's leading priorities -- things for which it should, if necessary, be prepared to offer substantial exchange value -- should include:

(i) Clear, formal recognition in all agreements of the distinctiveness of passenger service as compared with freight service;

(ii) Change from a mileage to an hourly basis of payment for passenger operating crews;

(iii) Elimination of "arbitraries" -- e.g., working rules requiring that a switching crew must do what a road crew could readily do:

(iv) More flexibility in the use of on-board staff -- e.g., an ability to have dining-car staff underemployed at certain hours perform non-dining-car functions aboard trains;

(v) Establishment of system-wide seniority rights, thus facilitating the finding of suitable employment for staff no longer required in one area because of service changes, and thus in turn reducing employee resistance to service changes (see Chapter 7, page 186).

(Stations, Building, and Other Facilities)

(17) VIA's statute should provide for its progressive acquisition of ownership and control over all major repair and maintenance facilities required for its operations (see Chapter 7, page 187).

(18) Similarly, the statute should provide for progressive acquisition, subject to certain exceptions to be noted, of ownership and control over all buildings along the VIA network used primarily as rail passenger stations. Certain variants should also be provided for, however. There should be provision for joint ownership of some stations with any or all of municipalities, provincial or municipal transit authorities,

intercity bus companies, etc. In certain other cases, where the station is also used for other important purposes, or where it is caught up in major urban redevelopment proposals, provision should be made for VIA to own outright or lease for 99 years the part of the building relevant to its purposes. Since stations are an important part of the "total passenger experience", it is essential for VIA's image and marketing success that it be able to make its stations what they should be (see Chapter 7, page 187).

(19) In the interests of improved intermodal networking, VIA should always be prepared to "go an extra mile" to induce transit authorities, intercity bus companies, airline limousine companies, etc., to share station facilities with it. Since, for reasons outlined elsewhere in this report, intercity bus companies, in particular, tend to have rationally self-interested reasons for hesitating to join in such arrangements, federal, provincial and municipal governments should consider whether some marginal sweetening of the pot for intermodal arrangements might be called for in the public interest (see Chapter 7, page 187).

(VIA Fare-Setting)

(20) VIA should be accorded a freedom to price its services consistent with its goals and with its operational criteria in respect of revenue and costs. It should be as free to price to maximize its revenue as are the other Canadian railways in respect of most of their freight traffic other than grain, and it should not be subject to arbitrary rules, such as inter-regional non-discrimination rules, preventing it from offering off-peak and other incentive fares in particular regions. There should, however, be established a special type of predatory pricing rule adapted to the circumstances of a subsidized public enterprise, and a procedure by which, in

relation to this rule, CTC can entertain and process complaints by bus companies and others that VIA is engaging in predatory pricing (see Chapter 7, pages 187-188).

Chapter 1

INTRODUCTION

In an advanced, industrial country such as Canada, possessed of elaborate, and to a considerable degree overlapping, networks of railways, roads and airlines, there are two major questions to be addressed concerning intercity rail passenger service.

The first is whether -- outside of certain localities and areas reached by rail, but not by road or airline -- the service should exist at all. Some economists and others believe that it should not. They have made their case periodically in the past, and continue to do so. Especially in North America, they argue, continuing large operating deficits and other evidence testify to the basic inessentiality of the service.[1]

Even on its own, primarily economic grounds, this conclusion does not, of course, go unchallenged. Some informed observers, generally of more "futurist" and "high-technology" tendency, believe the present, energy-haunted age to be, not the economic sunset, but the new economic dawn, of the passenger train.[2]

The second question arises once a country's public, having been exposed for a time to the arguments of both sides regarding question one, appears to render at least a tentative verdict in the affirmative: viz., "Yes, we should maintain a significant network of rail passenger service."

The second question (really a linked pair of questions) then is, "In that case, what should be the goals of the service, and how may they be attained most cost-effectively?"

In accordance with time-honoured economic principles of specialization and division of labour, this study focuses only on the second question. It is a question that seems well worth addressing in its own right, now that the Canadian public, by the unusual strength and one-sidedness of its reaction to the 1981 VIA Rail service cuts (a reaction further discussed in Chapter 2 below), appears to have rendered an unfortunately somewhat opaque but nevertheless affirmative verdict on the first question: "Yes, we should maintain a significant passenger service."

A further reason for concentrating on the second question is that we may address it more effectively if we do not allow the first question to keep continually reintruding. To get well into an analysis of how most efficiently to connect points A and B by a rail passenger service, then suddenly to raise anew the question of whether they should be connected by rail at all, does not make for clear communication. Rail passenger policy is a complex enough matter that to try to discuss simultaneously all important aspects of it usually leads mainly to muddle. A more step-by-step, "if...then" analytical approach tends to be more illuminating.

None of this is to say, however, that the first question -- the "whether or not" question -- does not remain well worth debating, if in some other forum than this. In no way is the shape and scope of the study to be taken as an implied "put-down" or pre-emption of that other, concurrent debate. To the contrary, and in addition to the general consideration that in a democracy, no important debate should ever be pre-empted or suppressed, there are several good reasons why active public discussion (as distinct from secret, behind-the-scenes discussion) of the first question should continue to go forward.

Among other things, it forces all Canadians to think harder about the fundamentals of an issue that not only runs to many hundreds of millions of dollars of government expenditure, but is also commonly related to important considerations of national unity, national heritage, environment, energy, etc. And even if, at the end of the day, the public remains on the whole disinclined to alter its original, affirmative verdict, our knowledge will nevertheless have been valuably enriched about the specifics of what it is that Canadians chiefly want from their rail passenger service. The present paucity of information about many of those specifics is an important source of difficulty in developing appropriate policies for VIA Rail Canada.

But why is the question of what Canadians want in rail passenger service so much a policy, a political question? In the ordinary way, when we want to know whether Canadians seriously desire some particular goods or service, and if they do so desire it, how much and what particular kinds of it they desire, we rely heavily on market-demand information -- on the record of consumer dollar-voting at various levels of prevailing price. And, to be sure, that same source of information -- the dollar-voting of the travelling public at the ticket counter -- is extremely valuable in the case of passenger rail service also.

When, however, we take note both of how heavily, and of how long, rail passenger service in Canada has been subsidized out of the public treasury, we are obliged to go in search of what basically amounts to a second, rail-passenger constituency. That constituency consists of the voters and taxpayers whose support, since the enactment of the National Transportation Act in 1967, has been so vital to the survival of the service. For in the debate about the first, "whether or not" question, the long succession of rail-passenger deficits is really a two-edged, argumentative sword, capable of being wielded by both sides. The negative side can indeed argue that the deficits provide mounting evidence of the non-essentiality of the service to the travelling public. But the positive side can argue that, taken in conjunction with the public reaction to the 1981 VIA cuts, the prolongation of taxpayer support is evidence that additional considerations, over and above the straight physical conveyance of people from place to place, are widely held to be important here.

What may be these additional considerations? What may they be, for example, in the perhaps particularly interesting case of the transcontinental service? From both sides may come rapid -- probably too rapid -- responses. The positive side may tend to evoke the particular circumstances of Canada's geography, history, and linked-region political structure. The negative side, making use of modern "public choice" theory, may argue that the additional considerations largely boil down to the strong political leverage exerted by a de-facto coalition of railway employees in passenger service, habitual rail travellers, residents of highly rail-dependent lineside towns, nostalgic railfans, and other rather obviously interested parties.

But whatever the additional considerations may be, many of them appear to be far from peculiar to Canada. Enlarging spatially the domain of our analysis, we are at once struck by what an extraordinarily world-wide phenomenon is the survival into the modern era of large, government-subsidized networks of rail passenger service. To be sure, many networks have been considerably trimmed back, especially in respect of branch-line and other short-haul, non-commuter service. But the size of what remains is still, nevertheless, remarkable, considering both its very red-coloured financial picture, and the far greater availability today, as compared with 50 or 75 years ago, of alternative means of passenger transport.

Some passenger trains, to be sure, do certifiedly make a profit, in the sense of earning from travellers enough revenue to more than cover all of the costs that the most exigent, far-sighted economist or accountant could possibly allocate to them. The Japanese Shinkansen trains definitely make money between Tokyo and Osaka, and there are a few other profitable runs as well.[3] The new, French, Trains à Grande Vitesse service between Paris and Lyon will almost certainly show a significant profit also. A very different kind of train, the revived "Orient Express" -- an on-land, private-enterprise equivalent of a high-luxury ocean cruise -- may possibly show profit within a year or two.[4]

But outside of these and a few other cases, the actual, present picture is an almost unbroken tableau of red ink, heavy deficits and heavy public subsidies. The Japanese and French passenger rail networks as a whole must be significantly subsidized by government, and this situation is replicated, to a greater or lesser degree, in all of the other large, industrial countries.[5] Yet despite the heavy pressure on governments, from financial markets and other quarters, to reduce their overall fiscal deficits, many thousands of passenger trains continue to run.

Given its broad, ideological traditions, one of the most striking cases may well be that of the United States. For while it has pared down more drastically than have many countries its once intricate spider's web of passenger service, it still maintains a significant, country-wide network, and the trains that run on that network are mostly quite new, thanks to major re-equipment financing authorized by Congress. The United States case is discussed in greater detail in Chapter 3.

Some partisans of the affirmative might hold that this worldwide situation of substantial, on-going passenger-train subsidy could be largely explained by a desire simply to equalize the situation of rail vis-à-vis other subsidized passenger modes. But as we shall see in Chapter 2, the factual basis of any such single explanation is generally faulty. All passenger-transport modes are subsidized to some degree, but the rail mode is generally more subsidized than are the others.

Whatever the additional considerations that have helped to keep the passenger train alive, they are evidently in part worldwide, and do not readily admit to any single, dismissive or otherwise, simplistic explanation. We shall have occasion to look again, in later chapters of this study, at certain aspects of foreign rail-passenger experience.

It will already be clear, however, that the "additional considerations" make it more difficult to perform properly the kind of "question-two" analysis attempted in this study. We start with a heavily subsidized Canadian rail-passenger network. We take that network pretty much as it is, and try to discern how to make it operate a good deal more cost-effectively in relation to goals. The greater cost-effectiveness, if successfully implemented, may be expected to reduce significantly VIA's total operating deficit, but by no means to eliminate it. At the end of the study's ten-year time-horizon, therefore, there will still be a substantial subsidy. We are thus left in a position where, if we try sincerely to improve "cost-effectiveness in relation to goals", we still have two constituencies -- two goals packages -- to satisfy. We must try to keep in mind both what we shall call "travelling-public goals", and "voter-taxpayer goals".

There is, fortunately, a good deal of practical overlap between the two constituencies and the two goal-packages. We shall even suggest a few ways in which apparent voter-taxpayer goals for transcontinental service might be made into more effective revenue-generators from the travelling public as well.

But not all differences and "non-overlaps" can be eliminated. Except where it has not yet served as a laboratory for that ultimate market test -- a real-life exposure of the ticket-buying public to importantly new and different kinds of equipment and service -- the market will doubtless remain generally very informative about travelling-public goals. But about the nature and priority-ranking of the voter-taxpayer goals, we remain considerably more in the dark.

We here deal with this problem in two ways. First, in Chapter 2, making what we can of the available political and other evidence, we develop certain tentative assumptions about voter-taxpayer goals for rail-passenger service in Canada. Second, in devising a system of recommendations aimed at making the service more cost-effective in relation to goals, we structure these recommendations partly with a view to getting earlier and better "goal-feedback" from the Canadian public. For example, this is one reason, although not the only reason, for recommending an incremental approach to service improvements in both the Québec/Windsor corridor and the transcontinental service. At various points in the proposed program, there are stopping points where, in effect, it is possible to say to Canadians, "There, now. You have before you a partial modernization of these services. You can see and ride the resulting trains, and look at their early income statements and drawings on the public purse. How does it look to you so far? Is this, in general, the sort of thing you want? Should we continue further along pretty much these lines? Or along different lines? Or should we stop? What do you say?"

While this will not be necessary for many readers, we nevertheless take the precaution at this point of recalling that -- much heavy, lunch-hour oratory to the contrary notwithstanding -- a political decision to subsidize, or to go on subsidizing, some good or service in the Canadian economy does not, in and of itself, contravene the "laws of economics". So far as economics has "laws", they are laws like the law of demand, the law of supply, and the law of opportunity cost. That is, generally speaking, and other things equal, the higher the price of a good or service, the less of it buyers will demand, and the more of it sellers will offer -- and *vice versa*, *mutatis mutandis*. And manpower and other real resources fully committed to one use (such as rail-passenger service) cannot simultaneously be committed to another, and the highest and best alternative use thus foregone is the true economic cost of these resources.

Nothing in these and other economic laws tells us conclusively whether or not to subsidize (and if we decide to subsidize, by how much) cathedrals, legal aid, the educational system, the 1988 winter Olympics, or passenger trains. As Lipsey, Purvis, Sparks and Steiner put it in relation to the educational system:

> "There is no general rule as to the appropriate degree of subsidy; the case for and against providing a commodity at less than cost varies greatly with the nature of the commodity and the externalities conferred by having more of it than the market would provide."[6]

To be sure, economic analysis can illuminate many aspects of decision-making about such matters. Given a draft plan, including a financing plan, it can tell us something about the likely material cost of the plan, and who will chiefly bear it. It can tell us also about the size and distribution of the likely material benefits. It can even check out for us the extent to which some of the *economic* justifications of subsidy to be found in economic theory, such as the theories of collective consumption goods and externalities to be referred to shortly, may be applicable to any particular case. Furthermore, given some reasonably clear notion of what it is we hope to achieve by initiating some tax-subsidized activity, economic analysis can, not infrequently, show us a cheaper way of achieving it.

But except in those rare instances where the object of a proposed, tax-subsidized activity is wholly economic -- where non-economic goals play no important role whatever -- the laws of economics do not, at the end of the day, tell us, "Thou shalt!" or "Thou shalt not! Thus, in the usual case, the economist who cries, "Thou shalt not by any means -- it is inefficient!" is not enunciating a law of economics, but is instead using the prestige of his professional attachment to make more resonant a personal judgment on the costs and benefits of the proposal. On the economic costs and benefits he may well be expert, but to the extent that non-economic goals enter into the equation, he is no more qualified to evaluate these than is any other citizen. And as for the terms "efficient" and "inefficient", they concern means, not ends, and only acquire significance insofar as the ends -- all of them, including the non-economic ones -- are stipulated.

Similarly, the terms "rational" and "irrational" ought to be used with more reserve than they commonly are in this type of policy connection. It is not in the least "irrational" for people to entertain non-economic values and goals, and for non-economists sometimes to emphasize such values and goals more than do many economists. Irrationality only occurs where, in the course of enunciating the "why" and the "how to get there" of such goals, logically faulty chains of reasoning are employed, or obviously relevant facts, such as the likely cost of "getting there" by some particular route, are misrepresented or ignored.

The "law" to be chiefly worried about in cases of this kind is not any law of economics, but rather the "law" of democratic politics, to the effect that major government policy decisions, like granting, continuing or withdrawing a rail-passenger subsidy, should not be made without reasonable evidence that a majority of voters either actively support, or at least are prepared to go along with, that course of action. Certain aspects of modern communications media, television in particular, may on balance tend to make more rather than less difficult the assessment of such evidence. Hence the concern here with improving the state of public knowledge of the issues, and the state of governmental knowledge of public opinion about the issues. Hence the desire that the concurrent debate on "question one" (the whether-or-not question) go forward, the better to induce a broader public to think over, in a more informed way, such matters as, "Who chiefly benefits, and in what ways, from rail-passenger service?" and "Who chiefly pays?" Hence, too, the desire to give the taxpayers a good chance to look over what they help to pay for while there is still time to draw back or otherwise alter course.

Economists have no license from higher authority to try to make policy against public opinion and the election returns. But they can do much over time, to make public opinion and the election returns at once more informed, and more informative, about rail-passenger and other policies.

Chapter 2

"ADDITIONAL CONSIDERATIONS" AND INTERMODALITY IN PASSENGER SERVICE

In the previous chapter, we noted the remarkable phenomenon, not just in Canada, but in other industrialized countries around the world, of the persistence of significant networks of intercity passenger trains. All of these networks, and the vast majority of the particular train services of which they are composed, are deficitary, and survive only by virtue of substantial taxpayer subsidy.

The process by which this degree of survival has occurred has often involved a series of confrontations. Teams of experts, asked to examine the economics of national rail-passenger networks, have frequently recommended substantial service cutbacks. But almost as frequently, their recommendations, while rarely ignored altogether, have themselves been cut back significantly.

It is by no means clear that this fashion of resolving what seems to be a serious, recurrent conflict between "economics" and "politics" -- or, more properly and precisely, between standard economic analysis of passenger service, and "additional considerations" that appear to weigh heavily in the minds of voters and legislators -- always produces optimal compromises. For example, in the case of Canadian transcontinental service, as we shall see in Chapter 5, it seems, on the contrary, to produce the highest-cost of all possible standoffs. Many people in and near government would frankly like to get rid of the service on economic grounds. But this is fiercely resisted by many sectors of public opinion. The compromise currently in force is to maintain the Canadian and Ocean Limited services, but not to re-equip or otherwise significantly improve them. This, however, it seems increasingly clear, costs the taxpayers substantially more than would either discontinuance or re-equipment with the type of more cost-effective rolling stock now in service in the United States!

Better conflict resolutions might result if the "additional considerations" were examined more seriously and incorporated into the analysis at an earlier stage. Such is one of the chief purposes of this chapter.

More specifically, the chapter:

(1) explores briefly the general nature of the continuing political support for the passenger train in Canada as it was revealed by public reaction to the VIA service cuts announced in November 1981;

(2) examines some of the more important "additional considerations" or voter-taxpayer goals that have been enunciated as reasons for continuing to support from public funds a significant rail passenger service network; and

(3) considers the general question of intermodality and the fitting of rail service into the larger pattern of passenger transport in Canada.

Let us then first deduct what we can about voter-taxpayer goals from the public reaction to the 1981 VIA cuts. As a guide to possible future policy emphases, this evidence is hard to read. Yet so dramatic a manifestation of public opinion cannot simply be passed over in silence. We cannot treat it as a non-event.

Adverse public reaction to particular government policy decisions is not, of course, a rare phenomenon in our times. It is more like a generally-to-be-expected norm. The real modern world that we live in is heavily characterized by "non-Pareto-optimality" and by "cognitive dissonance". That is to say, there are few if any moves available to government that will benefit some people while harming few or none, and people tend to react more vigorously to the taking away by government of something they already have, than to the failure to provide something they have not yet experienced.

Thus, the receipt by mail and other channels of a significant net balance of negative public reaction (much of this reaction coming from those whose interests are most directly and adversely affected), is virtually part of the standard decision-making experience of modern government. If, however, we may go by the testimony of long-time Ottawa observers of direct communication from the public, both the volume and the one-sidedness of the reaction of this case were extraordinary.[1] A possibly unprecedented volume of more than 10 000 letters was received, with only a very small number approving the cuts.

Even so, it may be objected, what do 10 000 letters, plus heavily adverse editorial opinion in the media, plus turnouts of protesters at a cross-country series of meetings sponsored by the chief Opposition party[2], really tell us about the opinions of voters numbering in the millions? A short answer might be that the noticeably different handling of VIA matters by the federal government since 1981-82 indicates that at least one group of persons with a large, collective experience of public opinion was prepared to draw broader conclusions from the sampling available to it.

More informative, however, in the light of the surrounding circumstances, may well have been the unusual degree of silence on the part of the "silent majority" in this matter. For many months prior to the VIA decision, the federal government had been under heavy pressure from editorialists, financiers, other businessmen, and members of the general public to reduce the size of its fiscal deficit. While much of this representation was couched in unhelpfully broad and sweeping terms, some spokesmen, at least, were prepared to identify specific areas of government expenditure which ought to be cut. (The revenue side of the deficit, with its many complexities of tax exemptions and tax credits, was less frequently mentioned.)

There seems in retrospect little doubt that the VIA decision was taken partly with the object of making some substantive contribution -- and possibly, even more, some rather visible and symbolic contribution -- to overall deficit reduction. Yet when the decision was announced, the vast majority of those previously prepared to recommend specific areas of deficit reduction kept their heads below the parapet of the trench, leaving the then Minister of Transport in an exceedingly lonely and fire-swept position.

One further feature of the public reaction seems worth noting here. The service cuts announced in 1981 were by no means limited to elements of the transcontinental service, and were in fact spread rather widely across the VIA network. They applied, for example, to three Toronto-area commuter trains, each of which often left Union Station on a Friday evening more heavily loaded with voters than the westbound Canadian.

Yet the public expressions of shock and protest tended to centre disproportionately on the transcontinental cuts, and also to embody a large content of traditional eastern and western expressions of grievance, to the effect that once again central Canada was depriving of service the extremities of the country, while leaving itself relatively well provided for. General appeals to history and to national unity also tended to focus primarily on the transcontinental runs. It might not be stretching interpretation too far to state that, in terms of symbolism if not of actual passengers carried, many Canadians appeared to perceive the transcontinental rather than the Québec/Windsor corridor service as in some sense the basic core or spine of rail passenger operations in Canada. And if one may judge by an earlier official task force report to the Ontario government, this perception could as readily have been found in Ontario as in other regions:

> "The Task Force endorses the principle of a passenger rail service operating coast-to-coast. For Canadians, it serves as a visible symbol of ties that bind us across incredibly long distances and link directly to the days when the 'ribbon of steel' first united the country. For all travellers, Canadians and visitors alike, it is an ideal way to experience Canada's impressive diversity in a comfortable and relaxed atmosphere."
>
> "...The storm of protest against any threat to discontinue the service is ample evidence of the value accorded to the 'idea' of the transcontinental."
>
> (The task force did go on, however, to state that while the general type of service should be maintained, some of the frequency and duplication in the service as it existed in January 1981 might be reduced.)[3]

How may we sum up the apparent meaning of this episode? As in the United States, an administration strongly persuaded of the sheer economic rationality of cutting back hard on deficitary trains came into collision with a public opinion evidently attaching greater-than-anticipated importance to non-economic or quasi-economic goals for rail passenger service. In the United States, the collision was somewhat spread out over time; in Canada, it came more as a single shock.

It certainly seems clear that some sort of special importance is attached by the public to transcontinental service

-- this, too, finding some degree of parallel in the United States, where no less than four newly re-equipped "transcontinental" services link Chicago and New Orleans to the Pacific coast. A good many Canadians continue to be prepared to stand up in public and be both severe and specific about cutting the federal government deficit, not least in respect of long-standing, transcontinental institutions such as the CBC. But few indeed are those amongst this group prepared to advocate publicly, in such fora as Parliament and party leadership conventions, the immediate cancellation of the Ocean Limited and the Canadian.

Finally, the 1981-82 episode also indicates that long-standing feelings of regional grievance still impinge very much upon rail passenger policy. We may reliably predict that a very regionally unbalanced future scenario, whereby residents of southern Ontario and Québec enjoyed access to ultra-modern, high-speed trains, while Canadians elsewhere no longer accessed any passenger trains at all, other than those strictly necessary to provide basic service to remote areas, would prove highly divisive politically.[4]

Specific Voter-Taxpayer Goals

It should be recalled throughout this section that the question being addressed is not, "Why rail passenger service?", but rather, "Why taxpayer-subsidized rail passenger service?" What generally motivates actual travellers to exchange cash or credit for VIA tickets presents no special or unusual problem of economic analysis (much as the details of the motivation may be the subject of intensive, on-going research by VIA's marketing specialists). But what may be "in it" for the taxpayer demands inquiry along less familiar lines -- lines, however, that still receive a certain illumination from economic theory and analysis.

Table 2.1

SUBSIDIES TO VIA BY TYPE OF SERVICE - 1980
($million)

	Transcontinental East	Transcontinental West	Windsor/Québec Corridor	Other
Cost	66	179	147	89
Revenue	17	53	54	12
Net Cost to be Subsidized	49	126	94	77
Passenger Kilometres (000)	396	1 235	1 185	288
Net Cost per Passenger-Km (cents)	12	10	8	27

Source: IBI Group, VIA Rail Canada, Comparison of Public Funding to Passenger Transport Modes, April 1983, Exhibit 13.

In its useful new survey of transport subsidization in Canada and a number of other industrialized countries, VIA's "IBI" group states that subsidies to the rail mode in foreign countries are supplied under the following rationales:

> "-- to compensate the railways for providing non-commercial services such as commuter services, services to remote areas, etc.;
>
> -- to counterbalance the direct and indirect subsidies provided to the infrastructure of other modes;
>
> -- to compensate for the impact of fare levels which are maintained below the commercial rate, either for all passengers or for specific groups;
>
> -- to enable the railway to make strategic investments.
>
> "The justification used for these payments is that railway passenger services are seen as important and vital elements of the national economies of these

> countries, and that, if public support is necessary to maintain them, it should be provided."[5]

Also of relevance here is the following statement on rail passenger service by the Ontario Rail Task Force:

> "The more efficient use of existing infrastructure, the fuel saved by using more energy-efficient modes, and the savings produced by the deferral or elimination of other transportation facilities, make the investment in rail sensible and practical."[6]

In the remainder of this section, we shall for convenience classify the chief arguments for subsidization of rail passenger service under the following six headings:

(1) Remote area service.
(2) Transport subsidy equalization.
(3) Energy-saving.
(4) Environment -- air pollution.
(5) Environment -- land-use, congestion, *et al*.
(6) National unity, national symbolism, tourist promotion and miscellaneous.

Remote Area Service

There exist a number of communities in the remoter areas of Canada where there are no road connections to the outside, where regular air service would not be cost-effective, but where there are rail lines providing the only practicable means of passenger transport. Many of these communities were initially brought into being by railway construction -- some of them, indeed, as divisional points and other settlements to service the railway itself.

So long as these communities continue to exist and play a role in the social and economic fabric of Canada, there seems little dispute over the proposition that they should continue to be provided with some form of regular passenger service. Since, however, the need here is for basic transport, with none of the special overtones that affect transcontinental service, it does not follow that the need must always be met by rail service, or by some particular kind of rail service such as slow, expensive sleeper trains. In some of these cases, the opportunity may offer to change over to a faster and more cost-effective service, either by some different kind of rail vehicle, or by a non-rail vehicle. Where it appears, the opportunity should of course be seized and the existing form of subsidized rail service replaced.

Subsidy Equalization

Directly or indirectly, all forms of intercity transport in Canada are subsidized in some measure by the general body of taxpayers, and the same may be said of transport in other industrial countries. Part of the standard case for subsidization of rail passenger service is a case that this mode should be brought to some rough equality, as to subsidization, with competing air, automobile and bus modes.

Calculating transport subsidization, especially in its indirect forms, is a matter of no little subtlety and difficulty. It is not surprising that the use of different assumptions and hypotheses can make large differences to the numerical results obtained. How much of a government-provided meteorological service should be charged to the airline industry, and how much to other users? At what point do local roads and streets cease to be "transport", and become more in the nature of "access to property" (the cost of many of them being, indeed, partly or wholly recovered from real property taxation)? In the recovery from users, through motor-vehicle taxation and license fees, of much of the cost of major highways, is the apportionment of recovery between cars, buses and freight vehicles of various weights about right, or is there an important element of concealed cross-subsidy? And what of the apportionment of cost recovery between rural and urban users of the highway system, given that urban highways are so immensely more expensive to construct? (One may, of course, raise similarly awkward questions about the internal structure of rail-mode subsidization.)

Table 2.2

PASSENGER TRANSPORT SUBSIDY BY MODE - 1980
(cents per passenger/kilometre)

Mode	System	Montréal-Toronto
Air	2.1	4.1
Automobile	0.6-1.0	0.6-1.0
Bus	0.6-0.8	0.2-0.3
Rail	11.1	5.4

Source: IBI Group, VIA Rail Canada, Comparison of Public Funding to Passenger Transport Modes, April, 1983, Exhibit 15.

The figures in Table 2.2 above summarize the results of one of the most recent, thoroughgoing attempts to tackle this difficult problem. The general character of the results obtained resembles that of earlier Canadian results, and of most foreign results, inasmuch as while all passenger transport modes are revealed to be importantly subsidized, the rail mode is much the most heavily subsidized. Thus, while subsidy equalization furnishes a case for a certain amount of rail subsidization, that figure falls well short of the total amount of subsidy currently provided.

It is of interest, however, that in the Montréal-Toronto corridor, subsidy of the air mode appears to draw a good deal closer to that of the rail mode. To this should be added that breaking down the subsidy figures by specific routes poses some additional judgmental problems, such as the allocation of airport costs in the many cases where a Montréal-Toronto flight is but one leg of a traveller's total journey.

A Note on Externalities and Collective Consumption Goods

Before proceeding to the remaining four arguments for the subsidization of rail passenger service, it may be helpful to refer briefly to some relevant economic theory. This theory recognizes that free, competitive markets cannot, under certain stipulated circumstances, deliver socially optimal results, and that a case is thereby established for the use of government subsidization or other devices to put things right. Of particular relevance here are theories of externalities or "third-party effects", and of collective consumption goods.[7]

Externalities occur when transactions between A and B have significant effects on third parties that are not taken into account by A and B. The effects can be either costly or beneficial -- negative or positive -- to the third parties. A negative pollution externality may occur if A, in manufacturing and selling newsprint to B, pollutes the downstream fishing grounds of a band of native peoples. In another case, of a common property resource, fishermen themselves, selling their catch to a packing plant, may impose a negative externality on other fishermen and on society by over-fishing a fishing ground. A negative congestion externality -- caused let us say, by too many additional motorists using a stretch of highway -- may have a two-stage effect. First, travel of all vehicles on the highway is slowed. Second, the public authorities may eventually feel compelled to react to this situation by expropriating land, levelling structures, and constructing a parallel highway.

It may be possible to argue that subsidization of a parallel rail service in the first instance would have attracted away sufficient motorists to have avoided or long deferred both the costly highway congestion and the costly second-stage reaction to it -- and that the rail subsidy would cost society less per annum than would the alternative sequence of events. If the rail service was high-volume and energy-efficient, an energy-saving argument might also be incorporated into the case.

Finally, a negative externality can arise from neglect of future consequences of present actions, as when the use of a particular fuel or insecticide today has negative effects tomorrow -- notably long-term cumulative effects -- that are not fully taken into account by today's users.

At first encounter, the term collective consumption good might seem perfectly to describe a passenger train, but in fact it does not, having in economics a more specialized meaning as something from the benefits of which nobody can be excluded. (People are routinely excluded from the benefits of passenger trains by the requirement that they present a ticket before boarding.) A collective consumption good that may have some relevance here is an attractive, liveable urban environment -- a healthy downtown core of a city, let us say. There is no practicable way of excluding people from the enjoyment of much of this core, as by charging admission to it. But one of the ways of keeping a downtown core attractive may be to provide it, on a subsidized basis, with commuter and intercity rail service of high capacity but discreet presence, thus obviating a need to cut across the core with one or more very indiscreet super-highways. Since the necessary subsidy cannot be financed by charging admission to the city core, it is provided instead from general tax revenue.

It might also be argued that a *really* high-capacity intercity rail service, by obviating the need to construct a second airport near a city, would so preserve the livability and present productivity of the prospective airport site and its environs that some subsidy to the rail service could be justified on those grounds.

Energy Saving

Many members of the public appear to adhere to a simple view that passenger trains -- especially those which collect electrical energy from a third rail or overhead wire -- save energy. Some passenger trains indeed make impressively efficient use of energy, and the energy aspect of the passenger train is of great general interest and relevance. The whole matter is, however, a much more subtle and complex one than is often realized. Among points needing to be kept in mind, without even probing into the deeper fundamentals of energy and entropy (and leaving pollution to a later section), are the following:

(1) All forms of passenger transport consume energy, and -- except to the degree that the effect is muffled by subsidy -- confront transport users with the current cost of that energy in the prices which they charge (including here in "price" the implicit price to a car-owner of the use of his own car). By way of illustration, the vast majority of users of all major forms of transport have experienced a significant, if differential, impact from the net rise in world energy prices since 1973;

(2) The number of passenger-kilometres which *any* type of passenger transport vehicle delivers in relation to BTU's of energy expended varies greatly according to load, proportion of space and weight of vehicle devoted to purposes (e.g., lounge, dining car) other than the strict carriage of passengers, stage-length and speed;

(3) Broadly speaking, all vehicles are like automobiles in that they tend to use more energy per passenger-kilometre while going through such end-

point processes as starting up, taxiing, stop-and-go movement, taking off, etc.; that they deliver their best "highway" performance at some maintained cruising speed; but that as speed is pushed above that ideal cruising speed, energy-efficiency lessens;

(4) The term "energy-saving", as applied to transport vehicles, only has meaning in terms of a comparison between the energy-performances of two or more types of vehicles operating under stipulated conditions;

(5) For most practical purposes, very rarely indeed can it be asserted that one commonly-used kind of vehicle is more "energy-efficient" than another, under all likely conditions and circumstances. For example, the simplistic view that trains driven by centrally generated electricity are, virtually by definition, always and everywhere more energy-efficient than diesel buses, cannot be sustained. What is the BTU/passenger-kilometre performance of the two modes, given the load factors and other service conditions in question? And how efficiently and by what method is the train's electricity generated? Outside of the provinces of British Columbia, Manitoba and Québec, with their large hydro resources, the methods of generation (not necessarily reflective of optimal policy with respect to such matters as small hydro sites) are likely to be, to a considerable extent, by coal or nuclear energy;

(6) There is, all the same, another important dimension of energy-saving additional to that reflected in straight BTU/passenger-kilometre performance, and that is whether the energy of one of the vehicles in comparison is being drawn from a renewable source such as water power. If it is, then that vehicle is energy-saving in the sense that it is not, like its competitor, drawing down posterity's stock of readily usable energy;

(7) Then again, however, it cannot be assumed that all vehicles, including such non-rail vehicles as cars, buses and aircraft, will not in due course achieve further improvements in their BTU/passenger-kilometre performance, or that, through such developments as hydrogen fuel-cell technology, they will not eventually be able to tap into hydro-electricity and other renewable sources of basic energy, where available. It may be quibbled that the hydrogen "energy messenger" in this particular technology is not an unlimited

resource; but it is, by all accounts, an extraordinarily abundant one;

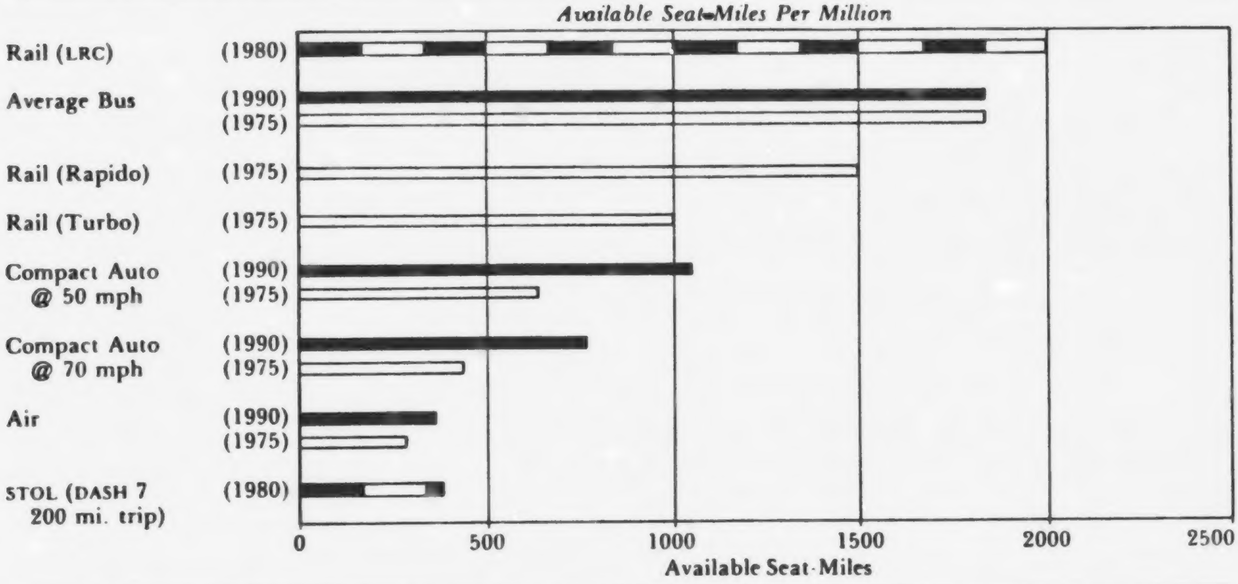
(8) Rising energy costs have not eliminated but only reduced somewhat in relative terms the importance in transport of other costs such as the costs of labour and capital inputs (both tending to be relatively high for rail passenger service), and the time-costs of business and other travellers;

(9) Those who would base aspects of transport/energy policy on an assumption that governments and their advisers are likely to be a great deal more far-seeing and correct then the general public in forecasting energy futures would do well to study carefully the actual record in this respect during the 1970's and early 1980's.

Table 2.3

MODES AND ENERGY CONSUMPTION

Relative Efficiency of Different Modes of Inter-city Passenger Travel



NOTES All estimates made in 1975.

The inter-city bus is not expected to improve significantly in fuel economy; hence the 1990 energy efficiency is unchanged from that in 1975.

The compact automobile is taken to have four seats. The values shown are reduced by 75 per cent when the driver carries no additional passengers, as is frequently the case.

Air refers to short-haul flights by the national carriers.

STOL = Short Take-Off and Landing aircraft.

SOURCE Adapted from Transport Canada, *Technology and Productivity in Passenger Transportation* (Montreal, 1975).

Reproduced in Brooks, David B., Zero Energy Growth for Canada, Toronto: 1981, McClelland and Stewart, p. 131.

All this said, let us examine and briefly comment upon the results graphed in Table 2.3. In effect, what the top bar tells us is that a modern, LRC-type diesel-electric train, with a high proportion of passenger-accommodation to total space and weight, running well-loaded with passengers over the type of corridor stage-length for which it was designed, would perform more energy-efficiently -- in a comparison with automobiles and aircraft, a great deal more energy-efficiently -- than would competing modes operated in the same type of service.

But now let us change some conditions. Let us first convert the locomotive into a "straight electric" type, collecting its power from overhead wire. All other things remaining equal, energy-efficiency will likely increase considerably. But in the overall economics of the train, there will now be a massive new capital investment in electrification to be amortized and factored in. The effect of this will be lessened to the extent that electrification cost can be spread over a large number of trains. The optimal condition for this would likely be a general electrification of all main-line rail service, freight and passenger, in the Québec/Windsor corridor, and a sharp rise in passenger volume consequent upon electrification improving substantially the standard of passenger service available.

Let us, however, move back to the diesel-electric present and try changing some other conditions. Let us change our corridor train into a transcontinental or other long-distance train. To do this, we must, in effect, depopulate the train of passengers to a significant extent, perhaps by as much as one third to one half, in order to release enough space for sleeping, food-service, lounge, crew-dormitory and other such purposes. This immediately shortens significantly (unfortunately, exact estimates are not available to be included in the graph) the length of our BTU/passenger-kilometre bar. Observing, from our moving train, a four-member family on vacation, proceeding along the parallel Trans-Canada Highway in a late-model compact car, we may be in no position to say that they would have conserved the nation's energy by crossing Canada aboard the train with us. If we further observe a well-loaded long-distance bus (no lounge, no dining car) on the same highway, it will be the bus passengers who may fling energy reproaches at us. In comparison with these two vehicles, the kind of train we are on must be justified on other grounds than energy. But then again, if we run our comparison with a well-loaded aircraft, or a car with a single driver/passenger in it, and if we are prepared rigorously to exclude all other factors such as time-cost and convenience that may have impinged importantly on those particular travel decisions, we may again perhaps feel "energy-superior".

Two broadly important impressions emerge from this exercise. The first is how greatly energy-comparisons alter as load-factors and other key conditions are changed. The second is what a remarkable energy-conserver, in all but the most high-volume situations, is the unglamorous intercity bus. It is a remarkable vehicle in other ways too, and we must shortly address the question of why its performance does not obtain for it a more appropriately high place in grand panoramas of Canadian transport futures, and in general public esteem.

Meanwhile, however, we must return to the specific question immediately before us, which is the extent to which the relatively superior energy performance of certain passenger trains, under certain conditions, may be held to justify taxpayer subsidization of them. Again, we must remember to bear in mind that present relative energy efficiencies are -- not perfectly, but to a large and significant degree -- reflected in present prices. That it costs substantially more to go from Montréal to Toronto by aircraft than it does by train is in part a reflection of the fact that the aircraft uses more fuel per passenger-mile.

That in turn must be presumed to be reflected in a partition of Montréal-Toronto travel demand more favourable to rail than it would otherwise be.

What then is the case for reinforcing this already existing "energy effect" by subsidy? The answer must be in some way future-oriented. It must lie in a view that at some time in the future, energy prices, and perhaps also, in some immediate emergency situations triggered by external political events, sheer energy availabilities, will be tending to drive larger numbers of passengers towards the rail mode. But when that happens, lack of adequate forethought, planning and preparation, by both users and providers of rail service, will cause the transition not to be accomplished as smoothly and swiftly as would be desirable. Many potential users will not have arranged their affairs (e.g., by moving house to locations nearer rail lines) to make an early switch, and the rail utility may not have sufficient capacity in hand to accommodate the new wave of demand for service that comes its way.

In considerable measure, this amounts to an argument for inducing, through subsidy, an overbuilding of present rail passenger capacity in relation to present "natural" demand, in order to be better able to handle higher anticipated future demand. The case is often put quite simply in the form that a nation ought to maintain, through subsidization to the extent necessary, a core rail-passenger network of sufficient critical size that its passenger carryings could be readily expanded by several orders of magnitude, in the event of a severe new round of world energy crisis.

Few who lived through the energy dramas of the 1970's would be disposed to wave away lightly the advisability of "expecting the unexpected" in energy, and of being prepared to expend some resources on appropriate "insurance policies". In a country like France, more brutally exposed than is Canada to the effects of possible interruptions in supplies of imported petroleum, rail passenger policy is clearly, to some important degree, an energy insurance policy (with which is conjoined, environmentalists must note, what some French themselves would perhaps describe as a "totally unsentimental" policy concerning nuclear power generation). Canada, with substantial present production, and with offshore, frontier, tar-sands and heavy oil deposits that some world petroleum price would make attractive to exploit on a large scale, is obviously less brutally exposed than is France to international petroleum crises. We are, nevertheless, exposed. We would be exposed, even if we achieved *de facto* self-sufficiency in petroleum. That would be because, in a really massive "crunch", we and other producing countries simply could not afford to allow the economies of our major trading partners to be devastated by lack of oil.

We thus seem to be looking here at an argument of some substance for subsidizing rail passenger service.

As with all insurance policies, however, questions of type, suitability and price-tag merit close attention. Let us underline this point by bringing forward an extreme case. Let us suppose that on the "day after tomorrow", a sudden new crisis, brought about by external political events, made it desirable to reduce quickly and drastically Canadians' consumption of petroleum. Let us suppose further that, as part of a total program to this end, it was proposed to shift on to rails most of the passenger traffic now moving by air and road between Calgary and Vancouver.

In no way could this be done via the existing CP line. That line is congested now, and while major programs are under way to relieve this, in an emergency such as the one postulated, the line would quickly congest again as freight was shifted from road to rail. The proposed diversion of passengers would require nothing less than the construction of a new, high-standard, electrified, "Canadian Pacific" through the mountains. The price-tag would be enormous, the completion time long; and the relevance of the existing, once-a-day-each-way transcontinental service, as an expansion base for the new service, virtually nil.

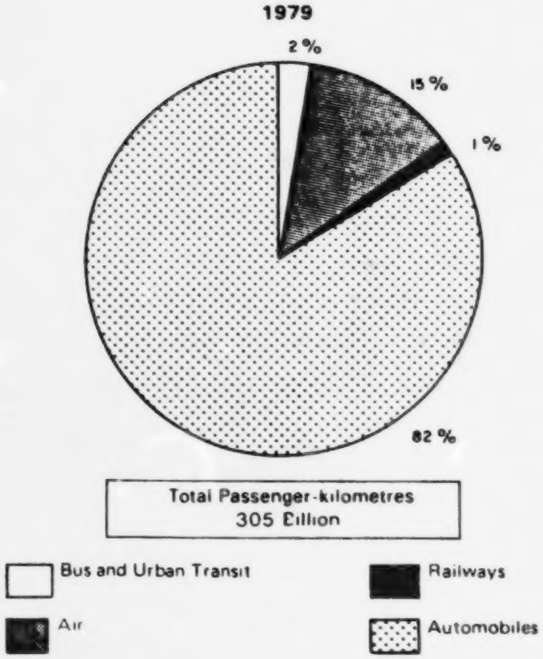
In central Canada, with utilization rates of existing main-line track capacity significantly lower than in the west, an early, sizeable diversion of passengers to the rail mode might be more practicable. Also, the more "volumetric" character of the present rail passenger service might make it somewhat more useful as a model and expansion base. Again, however, the impact on available track capacity of freight diversion would operate as an important constraint.

But further than that, once the fact was grasped that energy-saving in passenger travel is not a simple matter of shifting traffic from "bad modes" to "good modes", but rather of shifting traffic within and between modes in every way that significantly reduces BTU costs per passenger-kilometre, the really big, early energy-savings, in the postulated emergency, would be seen to lie elsewhere. They would be seen to lie in the general discouragement of unnecessary travel by any mode; in the encouragement of universal car-pooling; in other measures to raise the average passenger load of moving automobiles from one and a fraction to something more like four; and in the expansion of the quickly and cheaply expansible bus mode, which in any situation of population density insufficient to generate the kind of traffic volume required for energy-efficient rail or other "guided ground" service, is by far the most energy-miserly vehicle currently available to us.

As for the air mode in the postulated emergency, there, too, we might expect, among other things, strong efforts to ensure that most aircraft which took off did so fully loaded.

Table 2.4

BREAKDOWN BY MODE OF ALL PASSENGER TRAVEL IN CANADA



Source CTC estimates based on Statistics Canada Catalogue
Nos 50 001, 51 002, 51 202, 52 207 and 53 219

Reproduced in Canadian Transport Commission, Transport Review. Trends and Selected Issues, 1981, p. 20.

It is partly a fairly simple matter of numbers and proportions. So shrunken has our rail-passenger network become since the early 1900's, so shaped to the motor vehicle have become our now (by and large) less population-dense patterns of living and land-use, and so large has the motor vehicle come to bulk in total passenger-transport in Canada, that most of the rapid, first-stage contraction of transport energy-use that a major new crisis might make desirable would be best achieved by greatly improving -- as we could readily do, under sufficient economic pressure -- the energy-efficiency with which we employ motor vehicles. Their movements might become substantially more subject to central, computerized guidance -- as in car-pooling, for example. Their technology of use is the part of their technology that could be most rapidly changed in an emergency.

To be sure, in a second stage of response to prolonged crisis, some more considerable expansion of rail service than in the first stage might well prove appropriate. But the result would be most unlikely to be a replication of the 1947 rail-passenger network, in terms of 1980's technology. Lightly travelled branch lines, other than those strictly required for remote area service, would certainly not be part of it; buses would be the carrier of choice there. Rail service would expand only where there was enough volume to elicit from it an energy-efficient performance relative to that of alternate modes.

In sum, there does appear to exist some "energy-insurance" case for some subsidization of some passenger rail service. But the case must be carefully posed in terms of potentially high-volume rail service, with a sharp eye both on the price tag, and on important, alternative ways of achieving greater energy efficiency in passenger transport.

A Note on Electrification

Most trains in Canada already move by electric power, but draw this power from on-board, diesel-driven generators. "Electrification" is shorthand for shifting the generative process to a few stationary central plants, and distributing the electricity to trains by third rail or overhead wire (the latter being the overwhelming choice for intercity service).

Like many other large-scale railroading investments, electrification is a high-first-cost capital-intensification which, apart from special situations where avoidance of tunnel fumes or use of regenerative braking have major importance, is economically attractive under conditions of high traffic volume. Under such conditions, it increases track capacity somewhat, improves energy-efficiency, and in these and other ways reduces unit costs. It benefits high-speed passenger service more than it does freight service, but, given volume, confers advantages on both. It is best carried out in large, continuous blocks, covering all principal lines in an area, and all types of service. In this way, scale economies are better captured, and costs of duplicate facilities and locomotive changeovers are avoided.

The possibility of progressively electrifying major portions of the Canadian railway system has been under study for some time.[8] The consensus scenario would see the process begin some time during the next 15 years, in British Columbia and Alberta. It would begin there, because that is where heavy freight volumes are pressing hardest on available track capacity, and where, as a consequence, electrification would offer the best return on the heavy investment involved.

Subsequently, under this scenario, electrification, continuing to go where non-electrified track capacity was under most traffic pressure, would move eastward across the prairies to the Lakehead. Later, it would cross northern Ontario and move into southern Ontario and Québec.

A variant of the scenario would allow an earlier leapfrog movement into the Québec/Windsor corridor, in the event that emerging passenger volumes there increased the potential advantages of electrification. Still, under that variant, there would be important efficiencies in electrifying main-line freight along with passenger service. One might perhaps imagine a timing that "traded-off" somewhat between a reluctance, on the one hand, to electrify freight service before it was economically desirable, and a reluctance, on the other hand, to delay passenger electrification beyond a time when it did seem desirable.

Many people personally acquainted with first-rate electric passenger-train service in Europe might be disposed to question a possible 15-year delay in major electrification in Canada, and even to attribute this to general sloth and technological backwardness on the part of Canadian railway management. They should be reassured on this point. The possibility of electrification has been on the minds of Canadian railway management for a long time, to the extent that many tunnel clearances and other features have been deliberately designed to allow for its eventual appearance. If main-line electrification is not being actively pushed forward at present, that is because careful evaluations have indicated that heavy alternative investments, such as a second Connaught tunnel and upgrading of the line to Prince Rupert, offer a better return on investment for now, in terms of increased track capacity and other relevant measures.

Over the years, Canadian railway management has doubtless been as much guilty of misjudgment and other economic sins as have many other executive groups. It is important, however, for non-railroaders to realize that general public judgments on railways characteristically tend to be biased by a strong perceptual asymmetry. The public judges the technical and other efficiency of railways by what it most often sees; but much of what most matters about railways, especially in freight service, is not readily seen by anybody but railroaders. Hence, areas of particular technological advancement on North American railways, such as on-train radio, centralized traffic control and electronic yards, go largely unappreciated by the public. Passenger service, on the other hand, which has never at any time in railroad history been as much a strong point in North America as in Europe, is of course highly visible to the public and much commented upon. In the past, when "modal-monopoly" profits permitted such indulgences, railroad leaders like James J. Hill, while in some cases entertaining low economic opinions of passenger trains[9], nevertheless recognized their "billboard effect" on shippers and others, and so took care to keep their main-line, flagship passenger trains of good quality.

It is also important to appreciate that railways are business enterprises, not graduate institutes of engineering, and that what they physically are, at any point in time, in respect of such matters as track structure, and mixtures of old and new technologies employed, tends to be very much a product of economic pressures related to terrain, climate, population density, and principal traffics handled. Thus, for example, the entire Canadian railway system remains physically deeply marked by the on-going need to be able to haul heavy products such as grain, lumber, coal and mineral ores over very long distances at acceptable cost. The resulting characteristics, while they have helped to produce rail equipment orders and consulting fees for Canadians from countries facing similar operating challenges, have never at any time jibed too well with the requirements of passenger service. But businessmen must make choices with due regard to where the bulk of their bread-and-butter revenue comes from.

In the early days of North American railroading, many lines were built very cheaply in the first instance, to open up for development large tracts of sparsely populated territory. Some have never progressed very far beyond their original physical state. Others, however, have been upgraded again and again into -- eventually -- far higher-quality structures. The Amtrak line between New York and Washington, now carrying trains to a maximum speed of 190 kmh (120 mph), is the product of just such a process. It will probably, in due course, be upgraded still further. Successive upgrading is clearly one practical method of producing a high-speed railway, especially in the North American environment.

In one respect, North American railroading suffers from the vice of one of its chief virtues. That virtue is a high degree of standardization, such that a Canadian freight car can be run over many different railroads to Mexico City and back, without posing any unfamiliar operating or maintenance problems to any of the personnel who handle it en route. The adverse side of that is typified by the obstacle it presents to many railroaders who would like to see curve-elevation and other features of much of the North American system altered to accommodate higher speed freight trains with lighter axle loadings (a move which would of course reduce the present degree of incompatibility between freight and passenger service). But unless the whole or most of the system is changed over, a major problem remains of how to handle continuing large numbers of older, heavyweight freight cars, moving in interchange service all over the continent.

Environment -- Air Pollution

Serious air pollution is more often that not a sum of pollutants from many individual sources, and a passenger rail service has to be of some considerable size to make a significant difference one way or another to the overall situation.

That said, some general tendencies may be noted. Other things equal, there tends to be a positive association between amount of fossil fuel consumed and amount of pollutant produced. From this follows a tendency for pollution to decrease as passengers are shifted from less energy-efficient to more energy-efficient modes.

Another general tendency is for pollution to be easier to monitor, police and reduce if it emanates from relatively few sources, such as one or two dozen diesel-electric locomotives, than if it emanates from many sources, such as several hundred private automobiles.

If the rail service is now electrified, we concentrate its contribution to pollution yet further, at one or two stationary power plants. If the plants are coal-fired, we have an acid-rain problem, but one which can be readily enough controlled if we care to expend the necessary resources. If the plants are nuclear ... space here unfortunately does not permit a proper airing of this complex and controversial condition.

In general, it can be said that a "pollution-externality" case may sometimes exist for subsidizing a relatively substantial, energy-efficient, rail-passenger service, but that the exact circumstances of each situation must be carefully examined.

Environment -- Land-use, Congestion, etc.

By an ironical twist of history, the great Victorian railway builders levied a large, negative, environmental externality or "tax" on the cities of their own age, but in so doing unintentionally bequeathed to us a major environmental asset.

In their own time, they battered their way into city centres, laying waste many tranquil districts and graceful structures of the earlier nineteenth century. They imposed upon their immediate neighbourhoods round-the-clock noise, palls of coal smoke, and accumulating deposits of soot, portions of which are still in the course of being sandblasted away today. Over the long reign of steam locomotion, most households and other establishments finding these conditions strongly objectionable sooner or later contrived to migrate elsewhere, ceding the ground to other, less sensitive (though to some degree also, merely less affluent) land-users.

Since then, steam has been displaced by the still environmentally impure but less grossly polluting diesel-electric locomotive. Also, many rail freight, switching, yard, engine-terminal and loading/unloading operations have migrated to the suburbs. They have gone there in search both of customer-industries which have gone there also, and of large tracts of land on which to construct modern, electronic railyards.

We are thus left with a number of exclusive (i.e., banned to miscellaneous road traffic), "environmentally adjusted" rights-of-way, running from city centres to peripheries, then on across country to other peripheries and other cities. Most of them -- the rights-of-way, if not necessarily the existing tracks -- are substantially underutilized in relation to full, potential capacity. They could, where this seemed appropriate, be used far more intensively than they now are -- though not always necessarily by trains. As will be suggested later, express buses could be the appropriate vehicles in some lower-density situations. But whatever the choice of vehicle, these strips could be more intensively used for common-carrier passenger transport, and they could be so used with little if any additional land-acquisition or environmental nuisance likely to be seriously disturbing to the kinds of neighbours they now have. The prolonged litigation and political and social turmoil that recent hard experience has taught us to associate with new land-acquisition and planned investment in transport facilities, such as major airports, lie, in respect of these particular land-strips, behind us.

For just such reasons, these rights-of-way are in some cases actually, and in virtually all cases even more so potentially, socially valuable properties. They are environmentally adjusted, and they are exclusive, provided we have the sense to keep them that way. Exclusivity means higher speed for the favoured vehicle or vehicles. This is one of the more important qualities -- in addition, of course, to the present degree of fare subsidization -- that helps to keep the train as much in contention as it now is for passenger business between, say, central Montréal and central Toronto. Its cruising speed is not, for now at least, impressively superior to that of a bus, and it is, and probably long will be, but a fraction of that of a 727 of 767 aircraft.

But unlike the bus and the airline limousine, the train can get in and out of the centres of cities quickly, even in rush hours, without having to fight large volumes and varieties of other traffic for right-of-way space. And unlike the aircraft, it performs the whole centre-to-centre journey without two time-consuming changes of vehicle _en route_. On a trip from Montréal to Vancouver, this hardly signifies. But over a corridor stage-length of less than 650 kilometres (400 miles), it is an important difference, bringing the comparative elapsed time for rail, and for limousine/aircraft/limousine, much closer together. It is in relation to this kind of stage-length that the land-use externality assumes sufficient importance to merit fairly extended discussion here.

That there may be an environmental case capable of justifying some subsidy to rail passenger service over such stage lengths is suggested by the case of GO-train lakeshore transit service in the Toronto area. (This service, as it happens, operates over right-of-way and trackage largely shared with VIA.) GO-service, at its inception in the 1960's, involved a specific type of transport investment choice. Such choices, it is important to recall, are only very rarely made in the context of a square-one, flat-plain, let-us-now-proceed-to-build-Brasilia situation. Much more frequently, they have to be made with reference to a large, existing city, with long-established neighbourhoods and patterns of spatial and socio-economic relationships between neighbourhoods. Here, cognitive dissonance -- the especially strong resistance that people tend to manifest towards governmental or other decision-making that destroys, displaces or devalues housing and other tangible and intangible assets that they already possess -- can be much to the fore.

Essentially, the Government of Ontario faced three choices. First, they could simply accept the growing congestion of travel east and west along the lakeshore, to and from central Toronto, together with all that this might mean in terms of slowed growth or even deterioration in the downtown core, and accelerated and socially costly sprawl around the periphery.

Second, they could provide significant additional east-west freeway capacity, which, if it were indeed to serve the downtown core, must incur a heavy social cost. That cost would have included, not only the actual construction cost of freeway, but also -- and probably more importantly -- the cost of cutting a wide swath of destruction and devaluation across some of the more densely populated parts of the metropolis. (It is an important characteristic of freeways that, in order to carry large volumes of varied vehicles, piloted in most cases by non-professional drivers, they have to be extremely wide, especially at junctions. Per passenger/kilometre, a freeway uses far more land than does a double-track railway or other positively guided system.)

The alternative actually adopted was the third: that of seizing upon the circumstance that relocation of railway freight service and discontinuance of many long-distance passenger trains had rendered substantially underutilized an existing, heavy-duty, double-track rail line along the lakeshore. Not, to be sure, without substantial new investment, but at far less cost than a de novo rail facility (new environmental cost, notably, being close to nil), the GO service was initiated along the line. Though carrying many more passengers than originally foreseen, that particular GO service continues today to run at a deficit.[10] Some deficit was in fact foreseen and accepted as part of a "least-evil" response to a major urban transportation problem.

It is possible to extend the kind of least-evil reasoning behind the GO decision into a case for some subsidization of any intercity rail service sufficiently patronized as to eliminate or significantly defer the need for costly, alternative transport investments. The strength of the case depends importantly on such factors as:

(1) How densely populated and urbanized the relevant territory is;

(2) Whether there already exists a substantially underutilized but appropriately located rail right-of-way;

(3) The cost of increasing to some target level the practical passenger/kilometre capacity of this right-of-way;

(4) How congested motor vehicle roadways are, with particular reference to whether congestion is pushing them close to major, new-investment decision-thresholds;

(5) The elasticity of substitution of potential passengers, or how readily passengers can be persuaded to use the rail facility in numbers significant enough to defer the perceived need for heavy new road investments.

It is worth noting that this line of argument for subsidization of the rail mode is postulated on the use of existing right-of-way. A large part of the case for rail is that it is already there. If, by contrast, an ambitious new rail project requires substantial new right-of-way -- if, in other words, it starts cutting new swaths across urban and other territory, expressway-fashion -- then judgment on its general desirability and eligibility for subsidy (if needed) must incorporate an important negative environmental externality. This will not, of course, necessarily rule it out. It may, for example, prove, that while indeed the new rail line will have negative environmental impacts, a road alternative will have greater ones.

National Unity, National Symbolism, Tourist Promotion and Miscellaneous

In passing from energy-saving and environmental preservation as arguments, in some circumstances, for the subsidization of rail passenger service, to national unity and national symbolism, we make an important transition. We pass from public benefits whose value is somewhat measurable to others whose value virtually defies measurement -- at least, by any conventional and widely accepted method of measurement.

Given enough data, an economist, engineer or other relevant expert can put some sort of rough price tag on, for example, the net benefit that might result if we succeeded in persuading X thousand commuters to come to work over an existing rail line, instead of along a projected new expressway. But how would one put a price tag on the difference between two policy options in rail passenger service, one of which made Canadians feel prouder and more united than did another? It would be like trying to put a price tag on the concept of the Canadian flag.

"An economist," said Oscar Wilde, "is a man who knows the price of everything and the value of nothing." Better for our purposes here had he said "cost" instead of "price"! The reproach beneath the wisecrack must nevertheless be heeded in the present context. We live in a measurement-happy society: heavy, glossy-bound volumes of statistical tables and charts are among the modern weapons of choice in any major policy dispute. Hence a dangerous tendency, on the part of many caught up in such disputes, to fall into a habit of thinking that what is important is measurable, and that what is non-measurable is trivial -- mere fluff and froth, thrown into the debate by those with a below-average ability to do sums and argue logically. Sometimes, this is indeed the case. But the world political history of the last thirty years also reveals cases where the supposed fluff and froth descended upon excessively numbers-oriented decision-makers like mighty avalanches.

We cannot be certain, but there is a good deal of circumstantial evidence that a heavy descent of previously supposed fluff and froth -- of national unity and national symbolic considerations -- of "the value accorded to the idea",[11] as the Ontario Rail Task Force so aptly put it -- was an important part of the public reaction to the 1981 VIA cuts, especially as they affected transcontinental service.

At all events, by a process of rational elimination -- after having worked through, as we have just done here, the energy, pollution and other environmental arguments for subsidizing rail passenger service -- we are forced to conclude that, insofar as the public entertains "additional considerations" in respect of transcontinental service, they must be heavily weighted with something in the nature of national unity and national symbolic factors. For, after all, we are here considering a very limited number of train-sets, departing from their terminal points once a day only. It overstrains credulity to try to maintain that whether these particular trains run or not importantly affects, one way or another, the overall pictures of energy-use, air pollution and urban congestion in Canada. The main basis for the high regard in which many Canadian voter/taxpayers appear to hold these trains must surely lie elsewhere.

Given a sufficiently specific and well-defined situation, experts can furnish the public with useful guidance as to what national unity and national symbolism may be costing them in that particular instance. But few, if any, have appropriate credentials to tell the public how they should value these benefits. Most of that message has to come back the other way -- from public to experts. Getting it back in somewhat clearer and more noise-free form is among the objects of the transcontinental strategy to be recommended later in this study.

The commercial, marketing consideration of tourist promotion in passenger-train policy might seem to be more amenable to measurement. Even it, however, poses some special difficulties at present. Many, perhaps most, VIA trains have tourist potential in the sense of carrying tourists, generating spinoffs of extra business for tourist establishments in the areas they traverse, and serving as effective visual reference points for general tourist advertising. But here again, the transcontinental trains, so readily portrayable against a variety of attractive scenic backgrounds, carry a disproportionate share of this function.

One of the best examples of how a picturesque and popular train may be heavily used to attract tourists to a whole region is provided by the Agawa Canyon excursion train operated (without federal subsidy) by the Algoma Central Railway. In its advertising, the Ontario Government has found it productive to use the train's image again and again to attract tourists into the Algoma region and northern Ontario generally. Later in the study, we shall encounter a use of similar promotional tactics in respect of certain foreign trains running over much longer distances.

In the transcontinental context, it is of course most desirable that the visual "draw" of the train's image be followed up by a good actual experience aboard it. What we want travellers, both foreign and domestic, to say to themselves as they debark is, "What a train trip! What a country! I really must see more of it." That is where the bulk of the touristic spinoff that may be held to help justify the train's subsidization really begins.

A major area of ignorance at the present time is how much more touristic spinoff might be generated by up-to-date, re-equipped versions of present transcontinental trains. This is very hard to predict without at least a few new-style prototypes in service.

Intermodality

In terms of passenger volume, the present VIA network is but a small piece of a far larger Canadian passenger transport picture. Even if service improvements caused them to be multiplied two or three times, VIA's passenger carryings would still bulk small beside those of the automobile and air modes.

It is obviously important for VIA's future success that it be fitted as well as possible into the larger passenger picture. To discern ways of doing this, we must first consider certain aspects of that larger picture. In some ways, above all with respect to speed over longer and even many shorter stage-lengths, it presents a vastly improved tableau over what would have been observed 35 or 40 years ago. And yet, withal, it suffers from some curious gaps and disconnections between its common-carrier links.

The Parable of Granny

To illustrate this, let us consider the semi-fictional case of Granny. Granny, who no longer drives, lives in Calgary. She wishes to visit some relatives in Goderich, Ontario. If the year is 1947, she does not bother with a travel agent, but sets the whole trip up through her nearest CP ticket office. She then travels slowly but surely to Goderich by train. Three nights and two days she spends getting to Toronto. There, with her heavy baggage checked through to Goderich, she is escorted by a porter to another platform at Union Station, where she boards a local train to Goderich. Travel is slow, but connections easy and predictable. The family is waiting for her on the Goderich station platform.

Today, she flies from Calgary to Toronto in three hours. But then, if we suppose her to be obsessively devoted to making the remainder of her trip by energy-efficient common carrier, troubles begin. Her travel agent in Calgary was unable to supply her with reliable information about the relevant connections. She now learns that there is no limousine service to Goderich. Intercity buses heading towards Goderich indeed pass just south of Lester B. Pearson Airport, but make no stops or connections there (passenger trains to Goderich ceased some years ago; they, too, never made good airport connections). If she wants to catch one of those buses, she must first take herself and her baggage via limousine/bus to the Royal York Hotel in downtown Toronto, then take a taxi to the downtown bus station, which is some distance away from the Royal York and Union Station, not on the subway, and not the most appealing of places for an old lady to wait in at night. Fortunately, it is still daylight. In fact, it is rush-hour. Her bus to Goderich fights its way out of town along crowded expressways. Three hours after she first landed, she passes the airport again.

She might have done better to take an airport limousine service to Stratford, then a taxi to the bus depot there. It is doubtful that her travel agent in Calgary could have advised her accurately on just how, where and when she should make her on-going connection at Stratford.

The practical answer is, of course, screamingly obvious: she should fly to Toronto or perhaps London, and someone in Goderich should make a return trip by automobile to pick her up at the airport.

But we are left to wonder at the manner in which our modern, multi-modal network of common-carrier passenger transport, though performing so much better than its 1947 predecessor in many respects, is yet so ill-connected. Particularly are we left to wonder at the ill-connected, "orphan" status of the intercity bus sub-network. Here we have a remarkably energy-efficient vehicle, highly flexible as to routing, and very well adapted to looking after shorter stage-lengths in a country so many parts of which have relatively low population densities, but good, uncongested roads. On the map, the scheduled bus network bears a considerable resemblance to the rail passenger network of 1947, inasmuch as it has a transcontinental core, with a multitude of filigree "branch lines". It serves, among others, hundreds of smaller communities for which it is now the only common-carrier passenger service immediately available. (That, of course, makes it vital for the non-affluent elderly and disabled, among others.)

Yet, the scheduled intercity bus network of Canada is, for the most part, in the social sense, an "underground" network -- well known to its regular clients (mostly of somewhat lower-than-average income), but a comparative mystery to much of the rest of the population. There is no widely circulated route map of all of it. Most travel agents do not know where and when the buses run, and have, in any event, no commission-incentive or facilities for delivering bus tickets and reservations. Even if they did, the very sparse and sporadic nature of convenient physical connections between the scheduled bus network, the airlines and VIA would pose major obstacles to multimodal trip-planning involving buses. Not only does the scheduled bus network very rarely "say hello" to the airlines; it is hardly more communicative with airline limousine/buses! Over many highways in the vicinity of major airports, we in effect run parallel bus systems, which must involve some avoidable diseconomies.

In an especially curious way, the bus -- outside of a few routes offering designated "first-class" and other high-quality service -- seems a victim of what can only be called class distinction. Upper-income and middle-income people tend to disdain it -- but selectively! They do not hesitate to board a bus running as a tour bus or airline limousine, and they will often at least tolerate it as a short-distance urban transit vehicle. It is in its role as a scheduled intercity carrier that the bus mostly appears to "turn off" significant numbers of more affluent Canadians.

All this is unfortunate from a number of standpoints -- energy-saving, in particular. In an ideally efficient, multi-modal system of common-carrier transport, one would like modes to interchange conveniently (and be known to interchange conveniently) at a good number of points. Passengers should be more often confronted by choice -- be more often economically "invited", as it were, to accomplish each leg of a journey by the most efficient mode available. Among other things, we would like the bus to be the natural, low-density feeder -- the 1980's equivalent of the old branch-line passenger train -- to high-density VIA service. We would like the physical rail/bus transition to be made as quickly and conveniently as it is at certain major interchanges along the urban routes of the Toronto Transit Commission.

But mostly, none of this happens. Why not? What are the public-opinion and other barriers to it? The bus industry itself and other observers have inquired into the matter and have identified a number of key problem areas. For example, one bus executive, having listed some of the energy-saving and other virtues of the vehicle, notes the following "negative attributes":

> "Serious Image Problem:
>
> i.e., frequently viewed as:
>
> -- a low income, low status type of operation
> -- appealing mainly, if not exclusively, to the less affluent and those travelling for non-business reasons;
>
> Uncomfortable Buses
>
> Old, Dreary, Poorly Maintained Terminals."

Also noted as a "negative attribute" is the travel time required by buses over stage-lengths as long as Montréal/ Toronto.[12]

A later report for the Science Council of Canada also lays emphasis on discomfort and poor terminals as negative factors, but takes the view that both are remediable. Larger, more comfortable, safer, and more amenity-provided buses are stated to be well within the range of technological and economic possibility.[13]

While for some observers, "upscale" extension of the bus market into higher income clienteles is seen as the major goal, we must not omit to note that another close student of buses has concluded that still further penetration of the low-income market would be achieved if present governmental regulation of price and entry into the industry were lifted, and more bus-to-bus competition allowed to occur.[14]

For our own part, let us add here two more negative, but also in some measure remediable, attributes: lack of connectiveness with other modes, and slowness in moving between city centres and peripheries, especially in rush hours. In the latter regard, there is a certain "Catch-22" situation. Where a bus route serves several cities in succession, the bus is strongly impelled to penetrate to the core of each of them, and so be readily accessible to much of its basic, bread-and-butter, low-income clientele. But these in-and-out movements over non-exclusive urban roads and streets use up much of that time on which business executives and other high-income travellers place a high value.

There is a certain vicious-circle character about the negative attributes of buses: the practical problems tend to reinforce the image problems, and *vice versa*.

Yet there are surely ways of breaking out of the circle. For example, where major airports were being built or substantially rebuilt, it could be made a rule that special, exclusive access roads from nearby highways be provided, such that intercity buses on those highways could swoop quickly in and out to pick up and discharge connecting passengers. By that one stroke, mutual "feed" between the air and bus networks could start being significantly improved, and a useful image side-benefit could occur in that more middle-class air travellers began discovering that modern intercity buses were not so bad after all.

It would be worth investigating, too, whether in certain cities, intercity buses could not be provided with the kind of exclusive right-of-way strips between centre and periphery from which trains so much benefit. For exclusive use by professionally driven buses, such strips need not be wider than necessary to provide two lanes and two solid shoulders. Disused access lines to former industrial sidings or other secondary rail rights-of-way could well be sufficient for the purpose. To spread cost-recovery, the exclusive busways could be shared with express suburban buses and airport limousines, and off-peak rights might even be sold to some truckers who valued them.

It would certainly be fascinating to learn what improvement of in-and-out-of-city speeds such an arrangement could bring to an already superior intercity bus service like that between Edmonton and Calgary. With a bus-appropriate stage length and a first-class rural highway, some non-stop buses now cover that run in three and a quarter hours (a quarter-hour faster than infrequent parallel trains). Could exclusive urban access links at each end reduce that timing to well under three hours? Would that in turn increase patronage to the point where one could contemplate a frequency of departures (some of them wholly or partly first-class) on the hour every hour through the day and evening?

We could speculate, too, as to whether some of the shorter and less densely travelled legs of the present pattern of VIA services in the Québec/Windsor corridor might not in the end give more public satisfaction if they were handled by frequent, high-grade bus service of this kind, making close and convenient connection with the high-density rail core of the VIA network.

But all such speculations run into a number of problems, of which the chief is perhaps the state of public opinion -- the image problem of the bus -- the widespread impression that when the intercity common-carrier linkage of a municipality is switched from rail to bus, that municipality is somehow downgraded in the economic and social pecking order of Canadian towns and cities. There is also a cognitive dissonance problem noted by the late economist Arthur Okun:

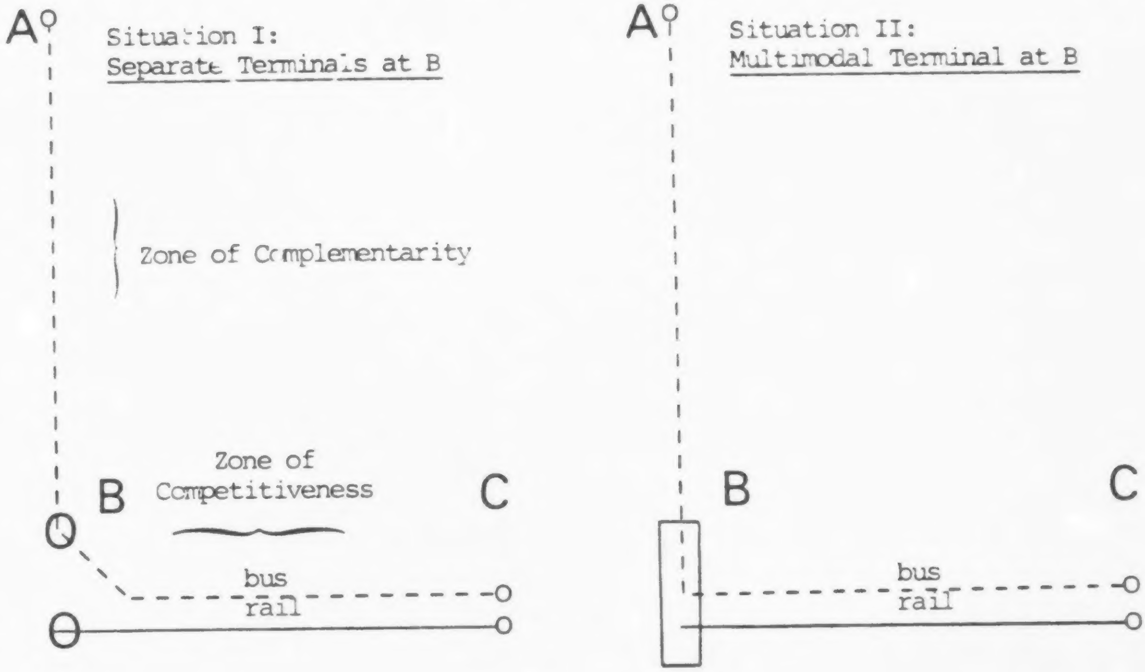
> "More generally, the public displays deep-seated conservatism toward any major economic reform. People fear the unknown; they know what they have; and they have much to lose besides their alleged chains."[15]

People served by three indifferent trains a day each way may nevertheless be very reluctant to agree to exchange them for a purportedly better unknown. What they have already is a known quantity; what they are offered instead, they may tend to lump into the category of political promises -- as a very uncertain "maybe", which may in fact be radically altered in a fresh round of governmental budget-cutting before it is even implemented.

Furthermore, carrier motivation to get things better together at modal interfaces can by no means always be assumed. Strong forces of rational self-interest may in fact push quite the other way, as may be illustrated by the following diagram:

Table 2.5

COMPLEMENTARITY AND COMPETITIVENESS
IN RAIL AND BUS MODES


A
Situation I:
Separate Terminals at B
Zone of Complementarity
B
Zone of
Competitiveness
C
bus
rail
A
Situation II:
Multimodal Terminal at B
B
C
bus
rail

Here, bus and rail modes are complementary in respect of stage A-B, but competitive in respect of B-C. By a sort of Gresham's law of transportation, when two carriers are partly competitive and partly complementary, it is often the competitive relationship that drives out the complementary. In this case, the bus company is reluctant to participate in an intermodal terminal at B for fear that the gain in A-B business will be outweighed by the loss of B-C business. The rail service from B to C may be faster, but not for people who live in the immediate vicinity of the present, separate bus terminal at B.

Bus executives aver that for this and other types of reason, when they scan their route maps with a view to possible expansion, "feeds" to rail lines rarely emerge as optimal investment choices.

VIA has put considerable effort into overcoming some of these problems, notably by aiding in the promotion of intermodal rail/bus terminal projects in certain cities. Since, as noted, buses do have a problem of unattractive terminals in some of the places they serve, the offer of participation in a more attractive multimodal facility is a logical line to pursue. But considerations pushing the other way, towards continued separation of the bus operation, make such projects hard, uphill work.

What it would be very useful to have at this point, as a means of exerting a positive influence on both general public and carrier opinion, would be just one or two examples, somewhere in Canada, of really first-class functioning interconnection between good rail and good bus service, complete with all necessary appurtenances such as through ticketing and through reservations. That would carry infinitely more weight than any number of plans, promises and speculations. In our later consideration of the problems of "third-category" VIA services -- neither corridor nor transcontinental -- we shall put forth a proposal to further the appearance of this much-to-be-desired interconnection phenomenon.

Conclusion

In reviewing the material of this chapter, it will be apparent that there are many senses in which the VIA network is far indeed from being all of a piece. Considerations which seem to weigh heavily for certain types of service are much less important for others, which in turn are more heavily influenced by factors more special to them. Generally, there appears to be a strong case for examining separately the corridor, transcontinental and "all other" services. Accordingly, following a highly necessary inquiry into the state of North America's other public rail passenger corporation -- Amtrak -- the three major categories of VIA service mentioned will be treated sequentially.

Chapter 3

SOME RELEVANT AMTRAK EXPERIENCE

Thanks to the fact that Amtrak (the National Railroad Passenger Corporation in the U.S.) shares with VIA a common, North American rail-operating environment, and thanks also to the care with which Amtrak officials structured the interviews in Washington which were part of the research for this study, these interviews were unusually productive of suggestive and useful material.

Subsequent review of this material indicates it to be "synergistic" -- i.e., to yield up more of its value if all of the interviews are considered together, in a block, rather than just referred to separately and periodically throughout the length of the study. To learn as much as can be learned from the Amtrak experience, it seems important to see the organization whole; hence this chapter dedicated to it. This is not to be read as implying that Amtrak provides a perfect model for a future VIA. It does not -- among many other reasons, because it is a unique product of the United States system of separation of political powers. But its experience over its relatively brief life offers many indications of how Canadians might obtain a better-quality passenger rail service at less net cost to them as taxpayers. Much as it pains one to say it, the Americans' handling of the statutory basis and other aspects of Amtrak displays an appreciation of certain principles of the effective creation and structuring of public corporations that Canadians once knew, but seem lately to have forgotten.

Amtrak is indeed a public corporation, still significantly subsidized from public funds. At first glance, its existence -- and even more, its persistence -- in a country which flies higher than most, from its ideological masthead, a liking for profit-making private enterprise, and an a priori suspicion of government corporations, above all when tax-subsidized, might seem a striking anomaly, especially in a period of enormous preoccupation with government deficits. But as in all countries, there can often be interesting gaps in the United States between even its relatively broad bipartisan ideological traditions, and what actually gets done in practice. In this particular case, Amtrak, like VIA, has been centrally involved in a discovery of greater-than-expected political support for the passenger train.

At its inception in 1972, many prognosticated that Amtrak would prove to be no more than the institutional vehicle for a gradual phasing out of all remaining intercity rail passenger service in the United States (and what remained at that date, in proportion to size of population and economy, was significantly less than what remained in Canada). Certainly, this tended to be the prevailing view at the White House, with both the Carter and Reagan administrations coming to power resolved to hasten the phase-out.

Both, however, had to back away from this course, under strong public pressure, manifesting itself above all through Congress. What has essentially happened is that Amtrak has become Congress' railroad. Congress sets and monitors Amtrak's key operating criteria, and the chief financial reporting links are, again, back to the Congressional Budget Office, rather than to the Office of Budget Management in the White House.

Told in advance that this was to be the outcome, one might well have been inclined to predict an inefficient, political-influence-ridden disaster, with a system-map more reflective of the geographical bases of relevant committee-members than of public demand for service. There were, indeed, some early indications that things might go this way, with certain trains in the schedule seeming largely inexplicable except as the rail-borne limousines of powerful senators and their constituents.

There are still a few minor bits of that in the current schedule, but on the whole, it now makes a commendable amount of economic and operating sense. This is above all because, for reasons the complete political story of which must be left to some other study to relate, Congress has imposed criteria governing where and when trains may run. Generally, long-distance trains must deliver 150 passenger-miles per train mile (i.e., must run reasonably well loaded) and not lose more than 10.2 cents per passenger-mile. For short-distance trains, the figures are 80 passenger-miles and 13.1 cents. In addition, Amtrak has undertaken with Congress to meet 100 per cent of short-term avoidable costs by 1985, and to ask Congress for less operating subsidy in each successive year.[1]

All this does much to take the local-area politics out of the schedule, and to keep the Amtrak organization focused on improving its ridership and running the trains briskly and otherwise efficiently. Congress is broadly supportive, but not a fairy godmother; and the size and survival of Amtrak are now clearly perceived, by management and employees alike, as a function of how well it does its job.

It probably helped, in the somewhat longer run, that the age and physical condition of the rolling stock which Amtrak inherited at its inception were generally dreadful -- much worse than the averages for Canadian passenger equipment at that time. This meant that Amtrak was hardly formed before Congress had to face the fact that either the system must be substantially re-equipped, or it would soon have to be shut down. Congress opted for re-equipment, at a cost to date, in round figures, of two billion dollars. But in so opting, in so large an amount, Congress was forced to concentrate thought on what, by and large, it wanted from Amtrak -- what should be its objectives, and how they should be implemented. Thus, from an apparently rearward starting position, relatively to contemporary passenger service in Canada, Amtrak has now moved out ahead, with a younger and more cost-effective fleet, and a more thought-through background of legal status, organizational structure, powers vis-à-vis host railroads, and goals.

Further elaborating on these general, introductory points, the remainder of this chapter follows the actual sequence of interviews in Washington.

Interview No. 1: Overall Policy

Amtrak is now a substantially re-equipped railroad. Most of its straight electric locomotives in the Northeast Corridor, and most of its diesel-electric locomotives elsewhere on the system, are new, specialized passenger power, selected after extensive testing. As to rolling stock, all long-distance runs west of Chicago are equipped with a complete range of new, bilevel equipment. Elsewhere, service is provided by new, single-level "Amfleet" coaches, and much-refurbished, single-level "Heritage" equipment inherited from previous owners. The Heritage equipment takes care of sleeping-car, dining-car and other specialized requirements east of Chicago, and on some shorter runs elsewhere. It will be five or six years before orders are placed to replace the Heritage equipment with newer cars. It should be noted that bilevel equipment cannot be operated east of Chicago owing to restricted physical clearances -- something which is not, by and large, a constraint for VIA.

Amtrak has recently been relieved of virtually all services of a primarily commuter character, which have been off-loaded on to local transit authorities. It is thus now an essentially inter-city railroad.

In this general situation, and with a sharp eye on the operating criteria stipulated by Congress, Amtrak is currently concentrating on two major objectives:

1. improving the existing service; and
2. decreasing the financial subsidy from government.

As President Graham Claytor has put it, "Look, the problem is to take what we've got and make it work."

Recent results give cause for satisfaction on this score. Ridership is up. Amtrak originally undertook with Congress to cover from revenue 50% of all operating costs (everything except capital expenditures) by 1984. This target was hit in 1982. The current figure is more like 60%.

As to short-term avoidable costs of passenger service (for further details, see below, and in Appendix II), the system is now covering 78% of these, and is shooting for 100%. In the Northeast Corridor (Boston-New York-Washington), Amtrak is actually making money on a short-term, avoidable-cost basis.

In the Corridor, of course, Amtrak now has its own right-of-way and tracks, its own operating crews, and its own labour agreements with these crews. As will shortly be indicated, the latter agreements include some passenger-service-oriented innovations which do much to reduce costs. In the long run, Amtrak wants to have its own operating crews (it already has its own on-board staff), and its own labour agreements throughout the system.

Amtrak already does have its own shops to do all its major equipment maintenance. Great importance is attached to this from the standpoints both of keeping down maintenance costs, and keeping up service reliability.

On-time performance, system-wide, and determined according to more demanding criteria than those presently prevailing in Canada, is 83%, and is expected to rise further.

As to possible system-expansion, Amtrak is currently taking an extremely cautious attitude. Additions to the schedule must make money, in the sense of reducing, not increasing, the Congressional subsidy. On this basis, one major service addition is now being implemented: a new "Auto-Train" (bring-your-own-car-aboard) between Virginia and Florida. It is believed this will be profitable. A flawed, private-enterprise predecessor sporadically was, and Amtrak thinks it can do better.

The question of very high speed "bullet trains" is not high on Amtrak's agenda at this time. If Amtrak went to Congress now to request several billion dollars of capital funding to initiate such a service, it would not only be turned down, but would revive old and uncomfortable debates about Amtrak's overall purpose in a strongly private-enterprise-oriented economy.

If, at some future date, Congress decided after all that it wanted Amtrak to initiate such a service, Amtrak would of course do it. If, by contrast, Congress wished to encourage private enterprise to introduce such trains, Amtrak would raise no objection. Already, indeed, the latter is the direction things seem to be taking. The new American High-Speed Rail Corporation hopes to interest private investors in an all-new bullet service between Los Angeles and San Diego, using a slightly Americanized version of the well-seasoned Japanese Shinkansen equipment (see Appendix III).

Amtrak management is not certain that such super-trains will in fact be profitable in the North American environment, with its frequent, low-cost, internal air service, its wealth of good highways (spacious dreamlands to visiting Japanese or French motorists), and the generally strong automobile-orientation of its land-use, structures and population patterns. They would, however, be very pleased to see some private organization such as the American High-Speed Rail Corporation try out a truly high-speed service, and so help settle the question of whether there is an economic place in North America for this type of operation. They would be pleased, too, for essentially the same reason, if a group of wealthy, state-proud and "high-rolling" Texans would risk their capital on a high-speed rail link between Houston/Galveston and Dallas/Fort Worth. (Since both the distance and the urban populations in the latter case would bear some resemblance to the Montréal/Toronto situation, this could be a particularly informative experiment for Canadians also.)

Some persons have also advocated a true bullet-train service in the Northeast Corridor. Amtrak management sees no early need for this. Several "Metroliners" per day, now authorized for a maximum speed of 120 miles per hour (190 kmh), already cover the New York/Washington distance in an air-competitive two hours and 59 minutes, even with stops at Newark, Philadelphia, Wilmington and Baltimore. To construct a new, Japanese-style line that accessed the centres of these large intervening cities would involve prohibitively high right-of-way acquisition costs. The line would have to follow instead a more westerly route, thus losing much of the intervening-city business. Overall, the long-run marginal cost of cutting the New York/Washington trip time from three to two hours would not seem justified at present.

Interview No. 2: Cost Definitions and Data

Much of the purpose of this particular interview was to obtain more precise information on Amtrak cost-definitions, and to obtain some revenue-cost, loading and other data on three major Amtrak routes with certain resemblances to major VIA routes. The three routes chosen were the Northeast Corridor, Chicago/Detroit (a "corridor" situation with population characteristics rather more similar to those of Montréal/Toronto than the super-populous, multi-city Northeast Corridor), and Chicago/Oakland (perhaps the nearest American analogue to a Canadian western transcontinental route).

As it turned out, many of the answers to the questions had been prepared in written form beforehand, and are reproduced in Appendix II-a of this report. Most readers will not need to be warned that most railroad costing and other ratios unavoidably contain many arbitrary elements, and must therefore be interpreted with reserve. Just to take one example, "projected break-even load factors", while calculated in relatively standard manner, are not really attainable on a consistent basis in practice, owing to seasonal fluctuations in patronage, and the varying demand strength of different route segments.

Remarks here will be confined to observations likely to enhance and otherwise improve appreciation of the Appendix data.

Like most organizations, Amtrak, for the most honest and practical reasons, keeps more than one set of cost-accounting and other accounting books. For example, to meet the demands of Congress, and to help management monitor performance in relation to Congressional criteria, one set of books must be prepared on a short-term-avoidable cost basis. Not unexpectedly, tracking these costs is a major preoccupation.

Nevertheless, for much internal management decision-making, such as decisions to invest in further upgrading of Amtrak's owned track in the Northeast Corridor (to take the simplest example), an accounting based on a longer-term concept of cost is obviously appropriate.

Moving equipment is depreciated on a 17-18 year basis. Track and other fixed structures, by contrast, are still subject to traditional railroad "betterment accounting", with maintenance charged to operating cost as incurred. Where there is some actual replacement of assets, only the difference is capitalized.

The Interstate Commerce Commission has directed the American freight railroads to switch from betterment to depreciation accounting for fixed assets as of fiscal 1983, but Amtrak may be exempted from this. The present Amtrak system might best be described as a "modified betterment" system.

For internal management purposes, an important distinction is made between "unit-cost" and "unit-use" calculations. The unit-cost approach is appropriate to something like the Chicago maintenance facility. The amount of work this facility must do is basically given: the area for decision is how to minimize the man-hours and other inputs required to perform the work expeditiously. But in costing, say, a particular train service, revenues as well as costs have to be brought into the picture, and the unit-use concept becomes the relevant one. Can the same or greater revenue be derived from lower inputs? Can less equipment be used, notably in slack seasons? Or would there be too much negative feedback from that on to revenue, as passengers experienced greater difficulty in finding desired accommodations?

The reader's attention is especially directed toward the paragraph in Appendix II defining "Fully Allocated Operating

Costs". It may be noted, for example, how station costs are allocated amongst trains on the basis of boardings and deboardings, without regard to length of journey. Subject to perhaps a quibble or two about relatively minor station costs of greater ancillary service on long-distance trains, this seems a pretty logical arbitration of the matter.

Interview No. 3: Administration of Contracts with Host Railways

This bore upon a matter which, more than any other was the subject of vehement, critical comment by VIA and many other Canadian interviewees for this study: the matter of costing and other contractual relationships between rail-passenger organizations like VIA and Amtrak, and their host railroads.

The interviewee was a career railroader -- a seasoned alumnus of a large midwestern road, with an extensive, hands-on knowledge of actual railroad operations. For purposes of interview by Canadians, he also has the asset of a considerable knowledge of VIA's relationship with CN and CP, probably obtained from VIA/Amtrak trans-border operations. It is his opinion that under the present ground-rules in this matter applying to VIA, it would be virtually impossible for even the most brilliant VIA management to deliver cost-effective and otherwise satisfactory passenger service.

As to Amtrak's present agreements with host carriers, the interviewee describes these as "not perfect, but not bad". He gives thanks daily for the historical and other factors (not to be detailed here) which make short-term avoidable costs the principal basis of payment by Amtrak to its hosts. The great advantage of this is not major reduction in the total amount of payment transferred (in the longer run, there might not even be any economy, by comparison with other accounting methods.)[2] Much more important is the great leverage which the short-term-avoidable concept gives Amtrak to extract on-time and otherwise satisfactory handling of trains by its contract-carriers. The big payoff is in the greater ticket revenue attracted by more reliable trains.

In the Amtrak setting, the "short term" in "short term avoidable costs" means very short-term. In principle, they are all costs which would disappear within a year after a passenger-train cancellation. In practice, most would disappear within 30 days.

As for "avoidable", that means clearly, identifiably avoidable costs -- costs that Amtrak's so-called "ferret squad" can go out on the railroads and measure. This they are in fact doing all the time, armed with an absolute contractual right, incorporated in the basic agreements, to audit the carriers' books. Some illustrative examples of field work by the "ferret squad" will be given below.

Short-term avoidable costs are the principal but not the only basis for payment from Amtrak to its hosts. (As is well known, railroad transportation enterprises are also characterized by exceptionally large blocks of fixed, joint and common costs, which cannot be allocated amongst particular services, such as passenger service, except on a highly arbitrary basis. Something obviously has to be done about these; somebody has to make the arbitration -- or, more properly and precisely, to make a set of arbitrations yielding what are judged to be probably the best accounting figures for each of a number of importantly different management and external accountability problems.

(But if the essentially arbitrary character of the accounting decision to be made is pushed aside and/or forgotten, unconscionable amounts of very high-valued human resources can be wasted in a time-unlimited search for a non-existent Holy Grail:

viz., a single, ideal method of allocating fixed, joint and common costs. Just as bad, or even worse, where there are two parties to the business, with strongly differing interests in the outcome, socially valuable resources can be wasted in constant, often secretive attempts to alter the de facto arbitration in favour of one or the other party, as the ups and downs of their respective commercial fortunes seem to make expedient.

(Given that arbitrariness cannot be avoided here, a much more economic solution is as follows: to fix on a simple, arbitrary allocation formula that does not seem wildly unfair to anyone, to leave it alone so long as changing circumstances do not call it seriously into question, to remember that accounting should never be an end in itself but rather a handmaiden to efficient performance at the sharp end of the business, and therefore to structure the accounting system (along with everything else) towards concentrating most of the best available brains on the task of getting the trains over the road cost-effectively.)

What does Amtrak do about this sector of costs? What it does is to pay to its host railroads, over and above identified short-term avoidable costs, performance incentives which, when performance is up to standard, rise to roughly double the counterpart performance payments by VIA. The payments have two purposes: to give the railroads some compensation for passenger costs non-allocable except by arbitrary methods, and to reward them for running trains on time. The on-time criteria are fairly demanding: more demanding than VIA's.

Thus there is a two-part transfer: clearly identifiable short-term avoidable costs of passenger service, and a variable performance incentive.

In monitoring avoidable costs, Amtrak builds them up item by item. Where, for example, a passenger train must be switched at some terminal or major intermediate point, Amtrak personnel visit the site to observe the actual operation. Amtrak pays for switching by the hour, not by the shift. The same technique is applied to other carrier-borne costs. Where, for example, a transcontinental train stops for 20 minutes at Lincoln, Nebraska, for fuel, water, 1 000-mile brake inspection, etc., this work will be done by carrier personnel who come over from the freight yard to do it. Amtrak wants to know how long it takes them to walk over from the freight yard, do the work, then walk back again. It wants to know what each of their basic hourly pay-rates are. It is then ready to pay for their efforts at those rates on a "portal-to-portal" basis.

Actual payment to the carrier ultimately occurs in much larger, flat-rated blocks. But each block is initially built up, item-by-item, in the manner described, and periodically monitored thereafter.

Before entering into contractual negotiations with carriers, Amtrak personnel must know the carriers' operations "better than they do." Carriers must and do respect Amtrak's costing ability.

As to the performance component of payments to carriers, this has evolved considerably over Amtrak's history. An episode on a midwestern carrier in 1977 helped to precipitate matters. An Amtrak passenger train was put in a siding because of a freight wreck up the line. After the freight wreck was cleared, the passenger train was left in the siding while seven other freight trains overtook it. Little did the dispatcher know that aboard the passenger train was the wife of a politically important figure! After this, passenger trains were given statutory preference over freight trains, and litigation in 1979 established this as a clear right to passenger-train priority. Meanwhile, incentive-payment arrangements were amended, then amended again. Some legislators questioned why the carriers should be paid for doing something it was their duty to do anyway. The traditional economics argument prevailed, however, that to get what one wants in the real world, if often helps to reinforce duty with lucre.

In fiscal 1982, Amtrak paid out $21 million in performance incentives to the carriers. This improved both on-time performance and Amtrak's general relationship with the carriers. That relationship is now more of a business relationship -- a proper supplier/customer relationship. The carriers now realize that they can make money on the passenger business if only they perform well.

The interviewee agreed with the author that the analogy sometimes drawn between single-commodity railways and mixed freight railways also carrying passenger trains, to the effect that the ideal railway is one where all trains run at the same average speed, is false and misleading. The optimal strategy in the mixed-freight-plus-passenger case is to get the two (say) passenger trains over the road fast and on-time. The time element is too often left out of the strategy calculation. "When you get a passenger train over the division in two hours instead of three, that leaves you 22 hours instead of 21 hours to run freight trains without having to worry about the passenger train."

When passenger-train schedules are too slow, dispatchers get sloppy. They let the train fall behind schedule on the argument that the time can easily be made up over the next division. But then the next division's dispatcher uses the same reasoning. Tighter schedules (within reason, of course) lead to better, not worse, on-time performance.

Performance of passenger trains in relation to schedules should be measured at intermediate points as well as terminal points. That way, if a train arrives seriously late at a terminal point, blame can be apportioned, as it should be, among divisions where the train fell behind schedule, and divisions where the time could have been made up, but was not. All divisions should have a clear interest in getting the train to its terminal on time; it is much better for morale and performance to encourage concentration on the final result, as contrasted with an incentive merely to shift blame to other divisions.

Interview No. 4: Special Agreements with State Governments

If one of the states is particularly anxious that a passenger train be run, even if it does not meet Congressional and Amtrak criteria regarding passenger loads and revenue-cost ratios, the train can be run if the state is willing to put up some of the money under section 403b of the legislation.

This is a very useful section, worthy of thoughtful consideration by Canadians. It means that where there is a particularly strong "political" or, if one prefers, "taxpayer" demand for a certain train in a certain locality, the train can be provided without opening up a loophole through which seventeen other localities will promptly press their demands for low-load, low-revenue trains. The section provides a significant price-tag deterrent.

Details of the main 403b arrangements will be found in Appendix II-e. Suffice it to say here that several states utilize this clause, for a variety of reasons. New York State wants extra trains to Albany and Buffalo to help offset the depressed state of economic development "upstate", and also to help offer some upstate political offset for the very large amounts that it must spend on New York City. The Missouri legislators want an overnight train between St. Louis and Kansas City, not to compete with the excellent air and road links between those two metropoli, but to provide a convenient link to tiny Jefferson, the state capital. Minnesota wants a train from the Twin Cities to Duluth, mainly to aid the latter, somewhat depressed area (following the near-exhaustion of the Missabe Range) with increased convention business. Apparently, area conventioneers like Duluth, but only if they can go by train. The State of California wants more trains in the greater Los Angeles area to relieve road congestion, air pollution, and the high cost of new freeway construction. There are other cases too numerous to list here.

Amtrak management is pretty well satisfied with the 403b clause, which seems to favour an amiably businesslike relationship between Amtrak and interested states.

Interview No. 5: Fares, Marketing and Intermodality

This interview bore on fares, other marketing matters, and "intermodality". Amtrak has done a considerable amount of econometric and other research into the demand for its product, and only a few highlights can be touched on here. When, in a few months time, a number of quite similar VIA research initiatives have been completed, a fairly detailed comparison with Amtrak's results should prove fruitful.

All fare-setting, and fare and demand research, at Amtrak is strongly oriented to the organization's principal, publicly stipulated, "bottom-line" goals, such as raising the revenue-cost ratio, and covering all short-term avoidable costs from fares by 1985.

While Amtrak does get some luxury trade, its basic target population is perceived as middle to lower income groups. (Somewhat by contrast, the best extant Canadian study suggests that while air travel appeals mostly to higher income groups, and bus travel to low-income groups, rail's appeal seems to cover nearly the whole income spectrum.)[3]

A strong element in the marketing "pitch" to Amtrak's main target population is the offer of a "unique travel experience". Another is, "Travel the U.S.A. at see-level", with the poster often illustrating a pleasant rural view through a large train window.

Actual and potential train travellers are more dispersed by age than might at first be expected. There is not as much of a skew towards people of 50 and over as many might anticipate. For example, the new, bi-level, long-distance trains west of Chicago have attracted a considerable youth clientele. Another interesting fact, hard to believe, but registering strongly in surveys, is that as many as 25 per cent of Americans state that they will always avoid air travel if they possibly can, and that this group is also well dispersed by age.

Amtrak's chief competitors are perceived as the airlines and the private car. Buses do not register nearly as strongly: their apparent "cross-elasticities" of demand with respect to rail pricing are far below those of the airlines. In the United States, the intercity bus, if not the tour bus, tends to be considered "the mode of last resort", Amtrak researchers say.

A pricing rule that Amtrak would like to follow more consistently would be to raise fares just enough to keep ahead of cost inflation, then let volume growth do the job of pushing total revenue up faster than total cost. But price wars between decontrolled airlines (cf., periodic $19 fares, Buffalo-to-Newark) have been among the obstacles to that. Amtrak has not tried to follow deep air-fare cuts all the way down, but has attempted instead to "hold revenue at the expense of market share." Sometimes, however, it has been forced to yield on this. But stressing the "service factors" that price-cutting airlines are increasingly abandoning does seem to produce some positive return to Amtrak.

As in all industrialized countries, and in spite of higher gasoline prices, the private car remains an extremely formidable competitor. The fact must be faced that for such purposes as multi-occupancy family pleasure travel, the automobile remains a remarkably low-cost, convenient means of transport. "Let's face it," said one of the interviewees, "once you put two or more people in it, the economics of the private automobile are virtually unbeatable." The automobile's competitiveness with rail does perceptibly weaken, however, as trip-length increases.

At this interview, there was some interesting discussion of "transcontinental" services west of Chicago. As in Canada, these trains are really multi-functional: no single function would suffice to justify them. They are tourist trains, they are intercity trains (on some parts of their routes at least), they are remote-area trains. A train like the Chicago-Seattle "Empire Builder" is bound to be, in part, basic, all-weather transportation for places like Minot, N.D., of insufficient size to interest the airlines much.

Especially on long-distance trains, excessively narrow, segmented thinking about the economics of on-board service can defeat the larger economic purpose. People do ride trains in order to enjoy a "unique travel experience", unlike that now offered by most airlines and other modes. Among other things, they ride trains so they can get up, walk around, chat with other passengers in a lounge, and be served a sit-down meal with tablecloth and relatively substantial cutlery. If these things are wholly or largely denied them, by beady-eyed budget cutters looking, appalled, at only the direct revenue and cost figures for on-board services, these customers ride less often, ticket revenue falls, and the result in terms of the overall economics of the train proves disappointing. This is not, of course, to say that on-board costs do not merit close and constant attention, but rather that the true optimum in these matters is tricky to find and prescribe. Amtrak is still recovering from the public-image and other effects of an ill-advised Congressional directive, now rescinded, to the effect that all on-board services, including particularly meals, should directly pay for themselves.

Amtrak runs quite a number of football excursions and other such special trains, but does not organize and package tours as VIA does. The latter function is left to travel agents. Amtrak's standard commission to agents is 10%, the same as VIA's. Amtrak believes that 10% is about the magic number, eliciting the highest dollar value of marketing effort by agents per commission dollar spent.

Amtrak's experience with U.S.-wide rail passes was that they did not sufficiently help long-haul business to justify their disadvantages. Regional railpasses, however, (good within one region only), do seem to be cost-effective, if carefully planned.

Long-distance trains continue to experience wide swings in patronage, from fully-booked in the summer to insufficiently loaded in the winter. Incentive off-season fares are being used to try to reduce this.

Turning to intermodality between trains and buses, some efforts to initiate closer relationships with the bus were launched two years ago, but not much now seems to be happening. Apart from exceptions in some localities, the bus companies do not seem very interested in enhancing intermodal connections. The Greyhound company, which once was a vocal political opponent of Amtrak as a subsidized competitor, seems to have lessened a good deal its campaigning along these lines. But it has not swung from that position all the way to an active interest in promoting complementary intermodality.

Interview No. 6: Labour Relations

In its Northeast Corridor operation, Amtrak now has collective agreements with operating crews which substitute an eight-hour-day basis of payment for the former 100-mile-day basis, and which eliminate "arbitraries" such as the old rule that an over-the-road crew must never do any of the switching of its own train at its terminal destination. All the parties seem to be able to live fairly well with this result. No employees are making less money than they would have done under the old arrangements, and the greater cost-effectiveness of the service has made it significantly easier to improve ridership, and so maintain and even increase employment of union members in the Corridor.

Nobody would deny that good luck as well as intelligent management bargaining helped to produce this result. Nevertheless, there are useful specific pointers here for Canadians, as well as a helpful general precedent.

Two years after its formation, Amtrak acquired the power to hire its own employees to do its own work. One of the first results of this was the takeover and enlargement of the major repair and maintenance facility at Beechgrove, Ind.

Then came the series of events by which Amtrak took over from Conrail the physical plant of the Northeast Corridor, together with the relevant employees. Under what my interviewee called, "the infamous title 5" (since rescinded), Amtrak seemed required to assume all the Conrail employees and their existing collective agreements. This is what actually happened for most employees except the train operating crews (engineers, conductors, etc.).

It is not entirely clear to the author why the situation of the operating crews was able to be left unsettled beyond the supposed 60-day limit for the transfer. Dispute about the terms of transfer of seniority rights from Conrail to Amtrak was apparently one factor.

In any event, Amtrak did not immediately hire the Conrail operating crews, but instead prolonged a general contract with Conrail for the services of operating crews still technically employed by Conrail.

Subsequently, two important things happened. First, the National Rail Service Act of 1981 removed from Conrail, as of 1983, the responsibility which Conrail still had to provide certain commuter and quasi-intercity services in the northeast, and in the process repealed title 5. Second, litigation between Amtrak and Conrail in the case of some Chicago reservation clerks went against Conrail, thus establishing that Amtrak was not now obligated to take over Conrail employees of any kind.

This put Amtrak in a new-hire, new-agreement situation, with its collective bargaining related to its own rather than to Conrail's legislation. It could hire former Conrail employees or not, in seniority or any other order, as it chose, and was under no obligation to reproduce in its own labour agreements clauses of the former agreements with Conrail. The fact that at this time many Conrail engineers were on furlough due to soft traffic conditions enhanced further Amtrak's bargaining leverage.

The intelligent thing that Amtrak did at this point was to think ahead, and not exploit its full bargaining leverage. How nasty Amtrak could be, if it were forced to be, was of course known to both parties. "But," said the interviewee, "we didn't shove it down their throats."

Instead, the basic Amtrak offer, subsequently accepted, came down to, "Come over from Conrail and work for us at an hourly rather than a mileage rate, and we will set the hourly rate so that your dollar earnings will be approximately the same as before." Subject to an exception to be noted, this means, of course, that crews have to work longer hours for their money. Now, for example, a Washington-based crew that brings a three-hour, locomotive-hauled express into Penn Station, New York, no longer packs its bags at the station and departs, leaving the rest to a switching crew. They must now take the train out to the yard, turn it on the "wye", and perhaps even run it through the water-pressure cleaner.

An interesting sweetener is a gentleman's agreement, subsidiary to the contract, to the effect that Amtrak will do its best, in the Corridor, to ensure that operating crews go out and get back home on the same day. Where weather or other delays prevent this, crews will be paid at half the hourly rate for the first eight hours that they are held away from home. The normal procedure, in freight service, and in all service outside the Corridor, is for no salary to be paid for the first 16 hours after the termination of a run away from home. But in this special passenger case, the 16-hour no-salary period does not begin until the eight-hour half-salary period has expired.

For many years prior to this agreement, dating well back into Pennsylvania Railroad days, senior operating crews greatly prized the Washington/New York "Red Apple" passenger runs, which in effect offered a good monthly salary for only 10 short days of work per month. In the new agreement, it is recognized that older employees may experience difficulty in adjusting to a new state of affairs requiring considerably more days of work per month. Such employees are initially guaranteed 20 days a month worth of salary, with the actual days that they work being stepped up only gradually to this level. Many will reach retirement before that happens.

In the long run, Amtrak wants to have its own operating crews and its own labour agreements with them throughout its system. It is believed that the chances of reproducing the new, Northeast-Corridor pattern of agreement elsewhere are good, in part because Amtrak has signalled that it is prepared to guarantee that the switch from the 100-mile to the eight-hour day will not reduce employees' dollar earnings.

Asked if fears of extension of the eight-hour day and other changes to freight service might not cause the unions to fight against it in passenger service, my interviewee stated, "If people on both sides are smart enough to negotiate this Corridor agreement, they ought to be smart enough to recognize the basic difference between passenger and freight service elsewhere." Ironically, the 100-mile day was first introduced long ago by the railroads themselves, as a means of reducing gold-bricking and enhancing productivity. More ironically still, it continues to serve this purpose effectively in way-freight and other stop-and-go service. But it is, of course, woefully inappropriate for fast passenger service.

Among lessons here for Canadians would seem to be the following:

(1) The best place to start getting more passenger-appropriate work rules and bases for salary-payment is likely to a part of the VIA system (such as perhaps the Montréal/Toronto corridor, after certain initial improvements to improve service-reliability and passenger appeal) where ridership is on a rising trend, and total employment therefore likely to be maintained;

(2) Guaranteeing income-levels and inserting grandfather clauses for the benefit of older employees who find it difficult to change their way of life may be very good investments in securing more passenger-service-appropriate collective agreements in the first place, and in being able to extend those agreements system-wide at a later date;

(3) Every effort should be made to draw a clear dividing line between passenger service and freight service, and to establish clearly that work-rules and other conditions applying to one are in no way necessarily a precedent for the other;

(4) Two-way collective bargaining between passenger-service management and employees is far more likely to produce an agreement suitable for passenger service than is three-way proxy bargaining involving freight-service management as well.

It will be evident enough that items (3) and (4) point to the desirability of VIA having its operating personnel on its own payroll, and reaching its own collective agreements with them. This, as already noted, is a major Amtrak goal also.

Interview No. 7: Equipment Engineering

The interviewee has been with Amtrak seven years. He was formerly with a diversified aircraft company and a rail equipment company.

One of his major preoccupations at the moment is to develop the prototype designs for single-level cars to replace the present "Heritage" fleet. This replacement will be done on a careful, deliberate basis. When prototypes are built, they will be tested for at least two years. Somewhat larger numbers will then be further tested in actual service. The major orders will not be placed for perhaps five or six years. Everything in Amtrak's experience indicates the great desirability of thoroughly testing and debugging equipment before subjecting the public to it on a large scale. Amtrak's engineering staff should be very much involved in the entire developmental process. Its staff should also take care to keep fully abreast of all developments in passenger-train engineering world-wide.

The initial specifications for Amtrak's present fleet of new single-level and bi-level cars were written back in 1974. Of the two types, the bi-levels were the more "agonizing" to develop and debug, in spite of the fact that they drew a lot of their characteristics from earlier Santa Fe equipment. The inexperience of North American builders at that time with new-generation, long-distance passenger equipment, and the more complex configurations and functions of the bi-levels, made for difficulties.

Now, both single-level and bi-level cars seem to be performing well and enjoying acceptance from the public.

Looking back with the wisdom of hindsight on Amtrak's re-equipment experience with both cars and locomotives, the interviewee would have preferred even more standardization than was achieved.

The interviewee volunteered the observation that so far as he is concerned, the North American passenger-car industry now basically consists of three firms, two of which happen to be Canadian. He is glad to have that range of choice. Japanese, French, and other overseas producers are always an option too, and he takes care to check them out regularly; but obviously there are advantages to working with suppliers who know the North American environment well, and who, in principle at least, can get staff to the scene quickly when troubles crop up. (More of this below.)

Asked specifically how equipment suppliers were likely to react to relatively small-scale initial orders, the interviewee said that of course there were scale-economies to be considered, and smaller orders tended to come in at a somewhat higher unit price. But the differences might be well worth paying in order to get a chance to observe problems arising in hard, actual service, and to change the specifications appropriately on larger, subsequent orders.

It does help to keep an eye on suppliers' present and likely-future volumes of business, and to try to time one's orders for "soft spots" in their schedules. That way, prices are likely to be lower and delivery times shorter. (This means, of course, that five or six years from now, when Amtrak is into heavy ordering, may not be a good time for VIA to be placing orders with what is in fact a North American industry.)

One of the most fascinating aspects of this interview was the response to the author's query about Amtrak experience with Canadian LRC trains, which Amtrak both tested extensively at the FRA facility in Pueblo, Colorado, and actually operated for a year in the Northeast Corridor between Boston and New Haven. Asked about this, the interviewee simply reached for the LRC binder and read out, verbatim, key sections of the engineering and other reports.

Particularly fascinating, to use the well-known Sherlock Holmes analogy, were the dogs which did not bark. The LRC train has been much criticized by some Canadian commentators for its heavy locomotive axle-loadings, and for its alleged inability to run at its design-speed of more than 100 mph, at least without unacceptable damage to track.[4] The Amtrak engineers had only passing comments to make about axle-loadings: lighter ones would be nice, other things equal, but they were not cited as a major problem. As to speed, Amtrak routinely ran the trains along the Shore Line in excess of 100 mph without damage to track (although it should perhaps be added that Shore Line track is very good by North American standards, with heavy rail and a growing proportion of concrete ties). The only serious constraint on speed was a worry expressed by experts of the Federal Railroad Administration that perhaps the cars might be unstable in high winds when being operated at around 120 mph.

Now, to be sure, the LRC trains were not problem-free, but it was emphasized that they were no more problem-ridden than any other equipment that Amtrak has introduced for the first time and service-tested. This was an important statement in the light of the wide variety of equipment -- American, Canadian, French, Swedish, etc. -- that Amtrak has in fact tested. Amtrak expects all new equipment to have problems. It did not find the problems in this case to be of unusual degree -- let alone fundamental, disastrous, etc.

Among the more specific Amtrak findings about the LRC were the following:

(1) The train was "within budget";

(2) The tilt-body concept works, but needs perfecting;

(3) The public reacted well to the trains, which brought a revenue improvement;

(4) The trains could bring an improvement in average speed along the Shore Line;

(5) They were, however, more than usually expensive to maintain;

(6) The cars were no more expensive to maintain than other Amtrak cars;

(7) The locomotive, however, was more expensive to maintain, partly because it was difficult to access to maintain its reliability;

(8) During the Shore Line test, there was a fairly high out-of-service rate, but no more than usual in new equipment;

(9) Overall performance was acceptable, and defects "readily correctible";

(10) As stated by former Amtrak President Alan Boyd in Congress, the main reason the LRC trains were returned to Bombardier was that Amtrak wished to achieve a high degree of standardization in its fleet.

Perhaps the most significant single criticism by Amtrak, so far as Canadians are concerned, has been left to the last, however. This was that when problems came up with this train, the manufacturer responded, but too slowly.

Two main messages seem to emerge. The first is that, unless there are hidden major faults which did not crop up in a year of Amtrak service, the LRC train now being operated by VIA in the Québec/Windsor corridor is a basically respectable piece of engineering, capable of serving the public well for some years ahead, provided the manufacturer and other appropriate parties get totally down to business about resolving its remaining problems.

The second message is to the Canadian railway equipment industry generally. There is an important, if sometimes disconcertingly variable, market for its passenger-equipment output in the United States, and no doubt in many other countries also. But how lucrative this market proves to be in fact will be highly dependent on the promptness and effectiveness of after-sales service.

Some Concluding Remarks About Amtrak

Like the LRC train, Amtrak is far from problem-free. Still, thus far at least, it has turned out to be a much better operation than was generally expected at the start. This has reflected the application of a good blend of experience and intelligence to its affairs. Its headquarters staff, for example, seems to comprise a sound mixture of experienced but still very mentally active ("old ways are not necessarily the best ways") railroaders, and young people from other backgrounds bringing enthusiasm and fresh viewpoints to the business of transporting people by rail.

To an economist, much of Amtrak's relative success to date seems attributable to the clever way in which Amtrak "mimics the market". It is very "businesslike". Overall, and outside, perhaps, of the special case of the Northeast Corridor, it does not make a profit, and cannot soon be expected to do so. Yet Congress and Amtrak management between them have so arranged matters that Amtrak nevertheless behaves in many respects like a profit-making enterprise, and is therefore perceived in that sort of light by customers, employees, suppliers, host-railroads, etc. If it cannot be a profit-maximizer, it is a remarkably dedicated loss-minimizer, and behaviourally, that has many of the same economically desirable effects.

An excessively bureaucratic mind might too soon conclude that what Amtrak chiefly has going for it is stronger and less vacillating general support from "government" (read, Congress), massive re-equipment funding and a consequently new and more cost-effective fleet, a high-quality piece of railroad of its own in a heavily populated part of the United States, and far stronger powers than has VIA to drive reasonable bargains with host railroads elsewhere.

All these are indeed important assets. But they are only half the story. A great deal of Amtrak's effectiveness derives also from the fact that Congress' support of it is not total and unconditional! Support is in reality very heavily dependent on performance. Amtrak will only be there so long as it delivers a quality product to a considerable public, without increasing its current-account drawings on the public purse. Management, employees, unions, equipment-suppliers and host railroads (able to make a bit of profit if they deliver the passengers on time, most of the time) all know this. They consequently perform better -- perform more as they would *vis-à-vis* a big, profit-making, private enterprise that can only go on dealing out the dollars so long as its expenditures do not overtake its revenues.

Chapter 4

VIA QUÉBEC/WINDSOR CORRIDOR SERVICES

The relative shortness of this chapter must not be taken as an indication of the deemed importance of its subject-matter.

Quite to the contrary, it is, rather, a reflection of the fact that the importance of its subject-matter has already generated a much greater volume of documentation, study and recommendation, than has any other sector of VIA's operations. There exists a considerable literature concerning the future of rail passenger service in the Québec/Windsor corridor to which the reader may be referred. It would be pointless simply to regurgitate here extensive summaries of that literature.

What this chapter seeks instead to do is to identify some of the corridor investment options for the future that have emerged from the literature, and to argue the case for one of the more cautious and incremental of these options. An option is supported that would be amenable to reasonably prompt reconsideration and changes of direction, should circumstances alter and actual results begin to diverge unduly from forecast results.

That there can be, in the corridor, some significant improvement in VIA's service quality, and some simultaneous reduction in VIA's operating deficit, seems beyond doubt. It is, for a start, no difficult matter to identify a number of things going on in the corridor now that ought to form no part of a modern rail passenger operation. They are inflating costs and turning away business. They should soon be correctable, once VIA is given the scope, which it does not by and large have at present, to address them fully and vigorously.

The view taken here is that the optimal course in the corridor is to begin by dealing with these more obviously remediable problems. Then policy should move on, in successive, step-by-step fashion, to other problems of a somewhat longer-term nature. It is held that more good is likely to be accomplished in this way than by trying to vault the corridor service, or part of it, to full profitability by a single, big, lumpy investment decision -- by a giant-sized "technological fix". At the present time, the question of how much, if any, of the corridor service can be brought to a full profitability, at least in the ordinary, commercial sense, exclusive of "additional considerations", is an extremely "iffy" one. It is "iffy" because it is attended by so many imponderables such as the future direction, extent and timing of world oil price movements. The answer to the profitability question is likely to be, if not perfectly clear, then a lot clearer than it is today, after a number of years of incremental investment and other service improvements.

"Men", said Napolean Bonaparte, "are led by toys." In all seriousness, the "toy factor" in transportation policy must be carefully allowed for. Men can fall very much in love with particular transport vehicles such as ships, airplanes and automobiles, with deleterious results upon the objectivity of their subsequent intermodal judgments.

Among the most recent and fascinating of modern transportation "toys" are the very high-speed Shinkansen and TGV ("Grande Vitesse") passenger trains operated respectively by the Japanese and French national railway systems. Literally, of course, they are not toys at all, but masterpieces of modern technology which, running in their home operating environments, achieve the rare and remarkable late-twentieth-century feat of moving passengers by rail at an overall commercial profit. In more technical parlance, they appear to generate enough operating revenue to cover all of their long-run marginal and average costs. These costs, in their cases, may appropriately be reckoned to include the cost of totally new, dedicated, high-speed, wholly grade-separated trackage and right-of-way. The economic feat of these trains only adds to their mechanical fascination.

But we must not allow the lustre of their achievement to prevent us from asking the right basic question about VIA rail service in the corridor between Quebec City and Windsor, Canada. The right basic question is not, "Where in Canada may we operate some advanced trains like these?" Nor is it even, "Where in Canada is the probability strongest of being to operate trains like these at a profit?"

The correct basic question is, "Taking all relevant conditions and circumstances into account, including the 'additional considerations' discussed in Chapter 2 above, what is the most appropriate kind of rail passenger service for VIA to attempt to provide in this particular Canadian environment?"

The balance of "additional considerations" in the corridor is notably different from that relating to the transcontinental service. The intangible but probably potent symbolic and nation-binding factors bearing upon the latter are of much less importance in the corridor, and probably always have been. The arrival in Vancouver of the first through passenger train from Montréal was a great national event, still illustrated and celebrated in our history books. The date of the arrival in Toronto of the first Grand Trunk passenger train from Montréal is mostly recalled only by specialized railway historians.

On the other hand, especially if we may realistically think in terms of passenger volumes two or more times as great as today's, the more tangible sorts of "additional consideration" bulk larger in the corridor. (As may be seen from Table 2.1 in Chapter 2, the number of passenger/kilometres delivered in the corridor in 1980 was 1.18 million, or slightly less than the total delivered by the western transcontinental service in the same year, with the much larger number of corridor passengers being offset by the shorter average distance they travelled.) Against a background of future volume growth, the considerations of energy-saving, air pollution and urban congestion begin to assume some real potential significance in the corridor. We are by way of contemplating rail investment decisions which could have some important impacts on investments in other modes, and -- in part through these impacts in turn -- on patterns of fuel use and urban development.

Even as things stand, the immediate corridor area has faster and more frequent rail passenger service than has any other major geographical area of Canada. This has been continuously true for more than a century and a quarter, and it has been true overwhelmingly because the corridor has, throughout the piece, been much the most urbanized and densely populated area of its size in Canada. The volume of rail passenger traffic which that generated in pre-airline, pre-mass-automobile days was an important factor in the long-ago decision to upgrade the most direct line from Windsor to Montréal into that comparative Canadian rarity: a lengthy stretch of continuous double track. That track and its right-of-way are still with us today, and are a very valuable transportation asset indeed, not currently used to anything like full potential capacity.

Never must we lose sight of the fact that rail passenger service is a highly capital-intensive method of moving people -- a method greedy for volume and scale economies. Other things equal, heavy urbanization and densification of population react favourably upon the economics of passenger trains, causing them to make more money or to lose less. Small wonder, then, that the amount and quality of service provided generally tends to bear a strong, positive relationship to these factors, not just in Canada, but throughout the industrialized world.

All that said, two very important qualifications must be added. The first is that, however densely populated and urbanized the Québec/Windsor corridor may seem in Canadian terms, it ranks far down the scale in those respects world-wide. Most notably, it hardly begins to compare with either of the Paris/Lyon or Tokyo/Osaka corridors, or with the New York/Washington segment of the U.S. Northeast corridor. Each of those high-quality rail-service environments has at one end of it a metropolitan area of more than ten million population -- over three times the size of Montréal or Toronto. The other end-points are, of course, no mean cities either, and between Tokyo and Osaka, and New York and Washington, are also to be found the metropoli of Nagoya, Kyoto, Philadelphia and Baltimore. If we care to include in our comparisons the Los Angeles/San Diego corridor, where, as some think (see Appendix III), a private-enterprise high-speed train service may be feasible, we find, as of 1980, populations of 7.5 million in Los Angeles county, 1.9 million in Orange county, and 1.8 million in San Diego county. It is also noteworthy that the greater Los Angeles area suffers from problems of air pollution, and of road and air congestion, of respective severities unknown in Canada.

Secondly, it is essential to note what other excellent transportation facilities the Québec/Windsor corridor has attracted. In terms of gradient, curvature, structural quality, maintenance standards, and comparative average congestion, the continuous multilane highway traversing the corridor from end to end must be ranked among the finest long roads in the world. Air service along the corridor is more variable, but at least in respect of the city pairs of Montréal/Toronto and Ottawa/Toronto, it can be said that few if any city pairs of comparable size outside North America enjoy such frequent and reliable service. Moreover, to judge from experience with U.S. airline deregulation, it may prove possible in future to provide at least as frequent an air service at significantly lower costs and fares.

Where comparisons are being made with situations outside North America -- or even, within North American, with the atypically old and densely built-up cores of New York, Philadelphia and Baltimore -- it is also vital to remain cool, calm and collected about the private automobile. That vehicle continues to have many features of remarkable suitability to a North American pattern of urban and rural life and land-use which it has itself done so much to create. To take but one example, the automobile has been a major factor in the creation of sprawling cities between which much of the travel demand is not of the centre-to-centre variety that, on the whole, most suits the passenger train. Thus, while a downtown Montréal financier may find that the train takes him conveniently close to the part of Toronto that he wants to visit, a salesman for a pharmaceutical company on the west end of Montréal Island may go by car because the Toronto customers he wishes to call on are mostly scattered through the farther reaches of Scarborough and North York. If he has a fair load of samples to take with him, the ability of the passenger automobile to double instantly as a light freight vehicle will further incline his preference towards that mode.

Whether we ought to have allowed North American cities to turn out in the way that they have is a good question, which has been, and continues to be, much debated. But in the context of this study, what chiefly matters is that they have in fact assumed this pattern, and that it is not likely to prove quickly changeable.

Moreover, as we have noted, renewed energy crises will not necessarily knock the automobile seriously out of travel contention. The technology of the vehicle has already proved responsive to higher gasoline prices, and further alterations in that technology, plus alterations in the technology of its use, may be quite feasible. Among other things, the possibility of the automobile being able to operate efficiently on something quite other than petroleum is already well past the pipe-dream stage into a phase of serious, intensive research.

In an important study for the Science Council of Canada, which should figure on even the shortest of short reading lists on corridor rail service, A. Khan deploys some extremely pertinent comparisons of rail-relevant factors in various corridors in Canada and abroad.[1] The Paris/Lyon corridor is unfortunately not included, but another French corridor designated for future TGV service -- Paris/Bordeaux -- does figure in the comparisons. Some of Khan's data is summarized in the tables which follow.

Table 4.1

SELECTED CORRIDOR COMPARISONS -- AUTOMOBILES
(1977 or nearest available year)

	Auto Ownership per 100 pop'n	Gasoline Tax per U.S. Gallon	Auto Operating Cost per Mile
Montréal/Toronto	40	$0.25	$.186
U.S. Northeast Corridor	45-50	0.12-0.15	.170
Tokyo/Osaka	16*	0.79	.500
Paris/Bordeaux	32	0.90	.241
London/Manchester-Liverpool	25	0.72	.266
Hannover/Munich	39	0.53	n.a.
Rome/Milan	31	1.96	.233

*All Japan

Table 4.2

SELECTED CORRIDOR COMPARISONS -- AIR SERVICE
(Winter 1977-78)

	Air Fares cents per mile	Air Frequencies per day
Montréal/Toronto	16.7	20/21
U.S. Northeast Corridor	19.0	152*
Tokyo/Osaka	18.0	10
Paris/Bordeaux	22.4	9
London/Manchester-Liverpool	18.6	9/10
Hannover/Munich	33.8	16
Rome/Milan	13.5	25

* New York/Washington only. New York/Boston frequency was 114.

Source: Khan, A., VIA Rail Canada. An Analysis of VIA's Potential in Fulfilling Rail Passenger Policy Objectives, Science Council of Canada Working Paper, Ottawa, 1980, Appendix A.

Serious students of corridor service are urged to inspect the full range of Khan's comparisons, not all of which can be read as pointing in the same direction. The selection presented here will perhaps suffice to indicate how large some of the relevant differences are between the corridors listed. A considerable number of additional Japanese, American and European corridors more populous than the Canadian one could, of course, have been included in the comparisons.

But let us turn to some of the planning options that have been developed for future rail service in the Québec/Windsor corridor. Much of the considerable projection work that has been done here focuses, understandably, on the Montréal/Toronto link. This is where present rail travel density is greatest, and where loss per passenger/kilometre, though considerable, is appreciably less than on other corridor links.[2]

All major proposals to achieve an improved, financially self-supporting rail passenger service along this link must attack the central problem of attracting sufficient passenger volume in what, as we have seen, is not one of the world's top ten corridors in terms of population density or other rail-propitious features. The problem is attacked in two principal ways.

First, most proposals alter the through Montréal/Toronto routing from its present path of Montréal-Cornwall-Kingston-Toronto to Montréal-Ottawa-Kingston-Toronto. This is not as geographically diversionary as many people might suppose who have grown accustomed to thinking of Ottawa as lying "north of the 401." Ottawa in fact lies roughly due west of Montréal, and the distance/time penalty of going through Ottawa rather than Cornwall is insignificant for a high-speed or an intermediate-speed service. Moreover, along much if not quite all of the proposed new easterly route-segment, lightly used existing rail right-of-way and even existing trackage is available for employment as desired.

A major advantage of bringing Ottawa fully into the ambit of a single Montréal/Toronto service is that the added to-and-from-Ottawa passenger volume is likely, not only to produce a first-round increase in train loadings, but also to justify an increase in end-to-end train frequency that increases volume again. For, as one of Khan's charts indicates, there exists on this type of stage-length a critical zone of train frequency running from two through express trains a day each way to about 12 trains. (At present, VIA offers eight trains a day each way between Montréal and Toronto, not all of them express trains; air frequency is more than double this.) Frequency increases within this two-to-twelve range have a particular stimulative effect on passenger volume.[3] The common sense of this is that when there are enough departures that a delayed traveller, who misses the train he had originally planned on taking, can usually count on catching another, later train without a lengthy wait, many more constant travellers will be prepared to enter into a regular-client, dependency relationship with the train service. This is why a late-evening, lightly loaded "cleanup" train may even be scheduled: the delay-insurance it offers to travellers helps to keep earlier trains more fully loaded.

None of the above should be read as implying that volume increases past the critical-frequency zone are of little value. Rail passenger service is always economically hungry for more volume, even if volume-growth past the point required to justify 12 trains each way does not have the peculiar self-levitating quality of volume-growth prior to that point.

The second way in which it is commonly proposed to achieve the volume necessary for a financially self-supporting service between Montréal and Toronto is to offer ultra-modern trains so dramatically faster than the ones now in service that a substantially increased percentage of a growing total traffic volume will be captured from the air and automobile modes. Here, we are carried into a much chancier forecasting environment, with far larger sums of capital funding potentially at stake. The time-frame is necessarily longer, and many important specific variables must be predicted by explicit or implicit assumption or otherwise. These include, not just the cost-effectiveness of new trains or other guided ground vehicles running on new guideways, but also general economic and population growth, total travel growth, the world price of oil, the energy and general efficiency of future aircraft and automobiles, and the intermodal cross-elasticities of passenger demand, among other things. The 1980 corridor study issued by the Canadian Institute of Guided Ground Transport handles these matters in a manner which makes clear their significance to any attentive reader.[4]

Like some other corridor scenarios, the Institute's study also presents its conclusions as a set of stepped alternatives, ranging down, in terms of capital cost, from, (a) the use of magnetic levitation ("Maglev") vehicles (to which we do not give more than passing attention here, since they lie so largely beyond our chosen time-horizon), to, (b) an electrified high-speed rail ("HSR") option very similar to the French TGV service, and finally to, (c) an intermediate-speed rail ("ISR") option, using vehicles not markedly dissimilar to the diesel-electric LRC and rail-diesel-car equipment already in service with VIA. A centrally electrified version of the ISR option is, however, also offered.

Top operational speed for Maglev is 450 kmh, for HSR 260 kmh, and for ISR 200 kmh. Those speeds convert to roughly 280 mph, 160 mph, and 125 mph respectively.

In terms of 1978 dollars, initial capital costs of these options were estimated at \$2.9 billion for Maglev, \$1.5 billion for HSR, and \$1.0 billion for ISR.[5] Allowing for the more inflated condition of 1984 dollars, it might not be too far off the mark to raise these figures to current values of roughly \$4 billion for Maglev, \$2 billion for HSR, and \$1.4 billion for ISR.

All systems in their completed form require all-new track dedicated to passenger service, but the Maglev and HSR systems also require substantial mileages of wholly new right-of-way, considerably distanced from the CN right-of-way presently used by VIA between Toronto and Kingston. Between Kingston and Montréal, the Maglev system again uses mostly new right-of-way but the HSR and ISR systems, over most of this route-segment, use existing rail rights-of-way.

An acute choice problem is evident between these options. For any option to succeed economically to the extent of generating clear profit, it must be able to swing a large percentage of Montréal/Ottawa/Toronto passenger traffic away from the air and automobile modes. Other things equal, the higher-speed the rail option, the more traffic it is likely to divert. But the higher-speed the rail option, the higher the price-tag, and the higher therefore the penalty if, owing to a large unfavourable gap between forecast and actual traffic, little if any of the capital cost proves recoverable from revenue.

Also, the higher-speed and more technologically advanced the rail option, the more it tends to have the very awkward "megaproject" characteristics of lumpiness and indivisibility -- of needing to be completed in its entirety before it can offer any benefits to the travelling public, or tangible proofs of economic soundness with which to quieten openly sceptical Treasury Board, Parliamentary and other critics.

Let us run over some of the two sides of the choice in terms of the HSR and ISR options only. In favour of the HSR option is the need to greatly improve rail speed in the corridor if a large percentage of traffic is to be captured from other modes; the benefits of starting all over de novo, and so breaking free of the undesired technological legacies of conventional, heavy-freight-oriented, North American railroading; the greatly lessened need to engage in difficult negotiations with CN and CP; and the desirability of appropriating for the benefit of Canadians more of the features of recent technological advances in rail passenger service overseas.

By comparison with the above, the considerations against taking the longer of the two technological leaps into the future may well seem carping, unimaginative, and heavily tinged with "politics". But realism, based in part upon the history of past attempts to leap forward technologically in Canadian rail passenger service, and also in part upon recent Canadian experience with megaprojects in general -- east, west and central -- demands close study of these items. As to political aspects, these not only cannot but ought not to be excluded, inasmuch as we are here discussing the affairs of an organization currently receiving major support from taxpayers in every part of Canada, and whose future capital expenditures must be underwritten by those same taxpayers. All of them, in every region, have a clear right of input into this matter.

Here, then, are some of the chief reasons -- some, perhaps, better described as anxieties and contingencies -- which may be adduced for not trying to leap as far or as fast as we technologically might:

- Economically, what supremely matters about rail or other technology is not its newness but its appropriateness to the particular situation. Not all, but a good many, of the differences to be observed in railroading practice around the world are explained more by this fact, than by sloth, lack of imagination, dull-minded adherence to irrelevant traditions, etc.

- The greater the technological leap, the greater is the risk that lengthy, expensive and public-image-destructive debugging will reveal itself to be necessary before the project can deliver its full potential benefits. That the technology in question already works well in another country reduces but by no means eliminates this risk. Among many possible reasons for difficulties may be insufficient allowance for local factors such as the peculiar freeze-thaw-refreeze winter climate of southern Ontario and Quebec, and incomplete technological transfer. The hardware may have been transferred into Canada well enough, but not necessarily also the whole of such software as unfamiliarly high standards of precision, care and attention in the operation and maintenance of the hardware. Little useful purpose is served by stating that such things ought not to happen; the fact is that they often do. Murphy's Law lives, and must be respected by wise decision-makers.

- The greater the technological leap, the larger is likely to be the megaproject; the larger the megaproject, the longer is likely to be the completion time, the longer the completion time, the greater is likely to be the delay in delivering tangible public benefit. Various unfortunate lock-in effects upon the sponsoring government tend to follow from all this. For example, during the lengthy construction period (say, realistically, five to ten years) required for an HSR system, existing deficitary VIA operations, between Montréal and Toronto, and elsewhere, would presumably have to be continued. The resulting total financial commitment -- current plus capital -- of the federal government to rail passenger service would likely make that government very reluctant to allocate still further funds to more marginal improvements in existing VIA services, however good a return some of these might promise.

- But this would not reduce public demands for more marginal improvements to existing services, including not least the existing Montréal/Toronto service (in which regard, it is of interest that the Ministry of Transport's current corridor mailbag yields very few public demands for radically faster trains, but a great many demands for better timekeeping and other marginal improvements in the performance of the trains already in service).[6]

- To the contrary, voters outside the Montréal-Toronto corridor, witnessing substantial expenditure of their money on a service from which they expected to benefit little if at all as travellers, and experiencing growing impatience and doubt as to whether they would ever much benefit as taxpayers through significantly reduced VIA deficits, might increasingly demand, as a matter of interregional fairness, marginal improvements to VIA services in their own areas.

- A lumpy megaproject like HSR also requires a size, degree and durability of commitment by government that importantly enhances the bargaining leverage of suppliers of labour and other inputs to the project. Knowing that government is under growing pressure to get the project completed and delivering tangible benefits to the public, they are likely to act rationally in their own interest upon this knowledge.

- Owing to the above and other phenomena, the bigger and lengthier a megaproject, the greater is likely to be the risk of unforeseen cost overruns and completion-time delays (themselves, of course, costly). Also, the bigger and lengthier the megaproject, the greater is likely to be the risk that some of its key assumptions will, as it were, shift under it, as the real world changes unexpectedly.

- If assumption-shift occurs fairly well along in the course of a megaproject, giving rise to growing doubts in the minds of both public and government, the choices then available to government can be peculiarly uncomfortable. To abandon or drastically truncate the project may be, at once, to throw away one of its most previously publicized virtues (such as a 260 kmh top speed), and to admit effectively that large sums of public money seem to have been misspent. The other uncomfortable course may be to press the project ahead with even more haste and inflationary effect, in the hope that there may still be enough public benefit from it to lessen if not eliminate the public expression of doubt as to whether it was really a good investment in the first place.

A doleful list, to be sure! But is it not also, in respect of many of its items, a depressingly familiar list? And does not the familiarity argue for caution?

Decisions between major project options cannot properly, to be sure, be taken simply by comparing for-and-against lists. Implicitly, at least, probability judgments have to be assigned to all of the significant items on the lists.

What probability judgments do others seem to be making about the prospects for profitable, full-blown, HSR corridor operations in the North American environment? North America has quite a number of possible corridors as populous as that of Montréal/Toronto: Chicago/Detroit, Chicago/Twin Cities, Houston/Dallas-Fort Worth are among several examples which come to mind. North America is still a great heartland of free enterprise. Where profit prospects appear, risk-taking entrepreneurs are not usually slow to follow. What has surfaced so far in respect of HSR private enterprises? One possible project has achieved a certain planning momentum in the very populous Los Angeles/San Diego corridor. Otherwise, little is visible.

Meanwhile, as already noted, Congress and Amtrak between them are in no hurry to initiate high-speed rail projects outside the Northeast corridor. Given how much more Congress and Amtrak between them have achieved with American rail passenger service than was widely expected of them at the outset, their judgment merits respect. It certainly cannot be said that the Amtrak organization is ignorant of overseas passenger equipment and services, and of their potential for North American adoption. Not only have Amtrak's staff repeatedly observed others' equipment and services in situ; they have thoroughly service-tested on this continent a considerable range of overseas equipment, and in one case (a Swedish electric locomotive design) have carried out an important, standard-equipment adoption.

Let us turn to the other, ISR option in the Québec/Windsor corridor. An obvious major disadvantage is that we lose a good deal of speed. From the TGV-equalling top operational speed of 260 kmh for HSR, we drop to a maximum of 200 kmh -- roughly the level of speed presently to be found, e.g., in the U.S. Northeast, and in some British Rail operations like London/ Bristol. We still share much right-of-way with CN and CP (especially the former), and we do not make as clean a break with existing VIA operations and conventional rail technology.

But the latter features comport some important offsetting advantages. Above all, they are much more compatible with a phased, step-by-step improvement process. Megaproject indivisibility, with all of its attendant economic and political perils, is greatly broken down. Particularly welcome is the fact that improvement of the existing Montréal/Toronto service need no longer be in any important sense competitive for funding with the new, higher-speed service. The two kinds of improvement become, for most practical purposes, one and the same. As the study of the Canadian Institute for Guided Ground Transport puts it, in a section entitled "Realistic Implementation":

> "From the experience of this study, the most likely VIA strategy would be based on two criteria: connect the corridor at as early a stage as possible, and let each change result in an improvement in (not degradation of) Toronto-Montréal service quality."[7]

("...connect the corridor..." refers to the proposed new routing east of Kingston via Ottawa.)

The present author would recommend going even further in the direction of gradualism and phase-in than does the Institute. The more that megaproject lumpiness can be broken down, the more room is there for flexibility, response to shifting relationships between assumption and reality, timely information-feedback and related course-changes, and keeping unavoidable mistakes down to small size. As each component of new investment is phased in, its effectiveness in terms of service-improvement and better revenue/cost coverage can be sooner monitored, and the results sooner fed back to the taxpayers across Canada who are underwriting the investment. Many of the politico/economic concerns about the HSR megaproject expressed in the earlier "doleful list" shrink to much less worrying proportions under the ISR option.

Let us move to specifics. The principal goal of VIA in the whole corridor area should be as follows:

Guiding Principle A-i:

To provide, in the Québec/Windsor corridor, a progressively higher speed and otherwise more useful passenger service to the public, on a basis of a rising ratio of operating revenue to operating costs, and with a view to ultimate profitability.

The means of implementation should be:
Recommendation 9:

VIA strategy in the Windsor/Québec Corridor should proceed in general accordance with the following successive steps:

(i) Acquisition by VIA of full ownership and control over major maintenance and repair facilities for all corridor passenger equipment;

(ii) Completion by VIA and the manufacturer of the "debugging" of LRC equipment, and the achievement with this equipment of high levels of reliability in service and low maintenance costs;

(iii) Assignment of clear, first-class operating status to VIA corridor trains;

(iv) Implementation in the corridor of the proposed new basis of costing and performance incentives between VIA and its host-carriers. (See recommendations 6, 7 and 8 in Chapter 7 below);

(v) Transfer of corridor operating personnel on passenger trains to VIA employment under new collective agreements specifically oriented to passenger service. (See recommendations 15 and 16 in Chapter 7 below);

(vi) Replacement of remaining obsolete locomotives and rolling stock in the corridor by "Mark-II" LRC or other new equipment;

(vii) Commencement of a step-by-step process of construction in the corridor of VIA-owned segments of high-speed passenger track. This track should be so designed, in respect of alignment, banking, overhead clearances, total grade-separation, etc., as to be suitable for ultimate operation of straight-electric trains at speeds up to 260 kmh. But it should also make maximum use of existing right-of-way lands, and at the two ends, each new segment should connect readily with existing track. As each segment of new track is completed, it should thus become available for faster and more reliable operation of existing LRC and other diesel-electric-hauled equipment. The selection and scheduling of new-segment construction should be planned partly with this object in mind. The public should obtain some shorter-term return, as well as the longer-term future return in terms of a complete, straight-electric service, on its heavy investment in new track.

A particular important stage in the above sequence occurs between steps (v) and (vi). It is highly desirable that steps (i) through (v) be accomplished before proceeding with (vi) and (vii). Indeed, this should be imposed as a condition, so that there is an "implicit contract" situation, whereby needed changes in work rules stand to be rewarded by investments likely to increase total traffic volume and total employment in the corridor.

In a longer-term perspective, the above gradualistic scenario is not felt to be mutually exclusive from and incompatible with a later move to higher maximum operating speeds than 200 kmh. This would be done by upgrading.

Upgrading has been an effective technique, in the generally more sparsely populated North American environment, for raising track speed as and where desired. It demonstrably works (between New York and Washington) up to 190 or 200 kmh, and has not reached its ceiling yet. The Japanese and French had reasons of their own for selecting a one-step, megaproject type of final approach to 250-260 kmh as by far their preferred alternative. Among other things, their existing parallel services were of sufficient quality (in the Paris/Lyon case, much better than anything now available in Canada) that public demands for improvement of them during the construction period of the all-new facilities could be put on "hold" in a way that would not likely be possible in Canada.

The above ISR scenario (for now) involves a much more continuing relationship between VIA, CN and CP than does the HSR scenario. Among other things, more placements of new, dedicated passenger trackage on existing rights-of-way would have to be agreed.

If approached primarily as a property-rights negotiation, to be picked over by small armies of lawyers and accountants from both sides, such agreements could indeed prove extraordinarily long and difficult of achievement. But if we stand back for perspective, we must surely discern, where the parties are VIA and CN, a certain Alice-in-Wonderland, Tweedledum-Tweedledee quality in any prolonged battle between two Crown entities over who should have which rights in a property of which the ultimate beneficial owners are the people of Canada. These are, moreoever, the same people who, in the past, by their periodic, timely financial support of CN and its predecessor roads, did so much to ensure the survival of the corridor property in the form of a high-grade, operational rail right-of-way.

The central issues should be seen much less as ones of property rights than of transportation functions. The vital CN and CP interest here, coinciding squarely with a vital interest of the people of Canada, is that the CN/CP function of moving freight cost-effectively must not be significantly impaired by virtue of these organizations having to share some land and other facilities with a rail passenger service that the people of Canada also happen to want. To the extent that non-impairment may be shown to require especially careful planning and building of, and extra investment in, dedicated track and other passenger-relevant facilities, that requirement should be accepted without question as a capital charge attributable to the passenger service. The same principle might be applied elsewhere, in respect at least of situations where existing track and right-of-way were being used at close to capacity levels.

Right-of-way sharing in the corridor is unlikely to be without some side-benefits to CN and CP. For example, some desirable (in any case) grade-crossing eliminations along freight tracks may become more practicable as low-cost extensions of mandatory eliminations along parallel passenger tracks. Some future scale-economies in joint freight/passenger electrification may be envisaged. And should CN and CP ever wish to operate, in overnight service through the corridor, specialized fast freight trains with light axle loadings, the ready availability of off-hour capacity on nearby passenger tracks could prove an advantage.

On the other, VIA side, the "parallelism" of freight and passenger tracks between Kingston and Toronto could prove a boon to passenger-train diversion and maintenance of service, in the event of serious temporary blockage of a passenger line. Such things happen now and again on the best-run railways.

Mirabel and Mount Royal Tunnel

As already noted, most scenarios for the Montréal/ Toronto segment of the corridor embody a routing via Ottawa. Many also include, between Montréal and Ottawa, a swing over to Mirabel Airport and a regular stop there.

At first glance, this would seem to be a clever simultaneous resolution of two Canadian passenger transportation problems: the desirability of any fast rail service between Montréal and Toronto mustering all the extra passenger volume that it can, and the present degree of ground-level inaccessibility of Mirabel, making the airport unpopular with passengers and airlines.

But upon further examination, this resolution may not be as neat as it seems. What Mirabel most needs is a frequent (perhaps as frequently as half-hourly), reasonably rapid connection with downtown and northern Montréal. It is not at all clear that 200 kmh intercity trains, running on an hourly or somewhat lesser frequency, would be the ideal vehicles to make this connection. An upgraded and extended version of the present rail transit service through the Mount Royal tunnel, running at a maximum speed of little more than 100 kmh, and making some convenient stops in northern Montréal, might do the job better and cheaper.

As to a high-speed connection between Mirabel and Ottawa, effectively making Mirabel Ottawa's overseas international airport, it is again not clear that fast intercity trains would necessarily be the ideal vehicles to do this. Given that most overseas passengers bound for Toronto and vicinity fly there direct, it should be asked how many passengers deplaning at Mirabel would ride the trains further west than Ottawa. So far as a frequent and rapid link between Mirabel and downtown Ottawa is concerned, buses could provide that today with little or none of the heavy infrastructure investment that swinging the intercity rail line over to Mirabel would involve. The extra stop at Mirabel would also lengthen Montréal/Toronto train timings.

But for a Montréal/Toronto train service via Ottawa, what would undoubtedly be attractive would be a direct northerly access to Central Station via the Mount Royal Tunnel. This would cut out a good many minutes now spent wending through St-Henri along the tortuous southwesterly access to Central Station.

We now seem to envisage, however, two major claimants for track-space in the present Mount Royal tunnel: the Montréal transit system extended to Mirabel, and VIA. To these has recently been added another notable claimant much preoccupied with the Mirabel problem: the Mayor of Montréal, who has urged that a high-speed rail service between New York, Montréal Central Station and Mirabel may be feasible.

The stage might seem to be set for a historic Battle of Mount Royal Tunnel. But we should first ascertain whether any battle is really necessary. With the aid of modern signalling and train-control, together with multiple approach tracks leading up to each portal, double-track tunnels, like subways, can be made to move amazingly large numbers of trains per hour. Some suitably expert and dispassionate persons should be sent to investigate comparable tunnel situations around the world, in order to help establish more authoritatively the true maximum capacity of Mount Royal Tunnel. It might prove to be a figure compatible with multi-user passage through the tunnel for some considerable time into the future.

Chapter 5

VIA TRANSCONTINENTAL SERVICES

The purpose of this chapter is to outline one of a number of possible scenarios for long-distance rail service east and west of Montréal, to and from the Atlantic and Pacific coasts. This particular scenario to be developed here is consistent with major points already made in earlier chapters of this report, and with some further points shortly to be made in connection with existing, transcontinental-type services in some other countries.

The scenario is meant to be helpful by being suggestive. It is not of course supposed for one moment that any federal government, in association with any VIA management, would be so irresponsible as to authorize, finance and implement major changes in the present transcontinental service without first accessing far more, and more varied, technical and marketing information that can be deployed here. But particular scenarios, by virtue of their specificity and concreteness, can sometimes persuade experts both to sharpen their conceptualization of the problems to be addressed, and to consider a wider range of possible solutions to them. That is what is mainly aimed at here.

Rather obviously, transcontinental service is a decidedly different proposition in many respects from service in the Québec/Windsor corridor. Distance, terrain, population distribution, the sharing of parts of the line with heavy volumes of primary-commodity freight traffic, the immense time-advantage of air transport for those in a hurry to "get there" -- these and many other factors rule out the degree of preoccupation with high speed and moderate to high frequency of service that are appropriate in the corridor.

This is not to say that speed is of no importance in transcontinental service. Excessive dawdling, and above all long and unexplained sojourns in remote, unscenic passing tracks, are sure ways to drive customers away. But a quite acceptable speed runs around a well-maintained and technically undemanding 100 kmh (62 mph) in most terrain, and somewhat less than that in mountains and around the north shore of Lake Superior. A passenger-attractive transcontinental train probably need not run any faster than did CP Rail's "Canadian" in its earlier days, or than Amtrak's long-distance bi-level trains run today. Much faster than that tends to blur the scenery, which along parts of the traditional Canadian routes is a primary reason why many of the passengers are aboard the trains.

Before going further, let us improve our perspective on long-distance trains by a summary view of some selected operations in other countries:

Aspects of Some Notable Long-Distance Trains Abroad

1. The United States ("Empire-Builder, "San Francisco Zephyr", "Southwest Limited" and "Sunset Limited").

Amtrak's conception of long-distance trains has already been touched on, and the treatment here can be brief. As noted, these trains perform multiple functions. But so far as the broader base of their general, taxpayer support is concerned, one has a strong impression that justifiable pride in the American landscape, together with the apparently indestructible, perhaps even indispensable, power of the legend of the West, plays a leading role. People who do not necessarily ride these trains often, if indeed they have yet ridden them at all, may well feel, nevertheless, that they should be there -- available, for themselves and their descendants, to provide always the opportunity of seeing America at "see-level", without the distraction of coping with highway traffic. American national pride, never a force to be trifled with, may at bottom have had much to do with the decision to re-equip these trains.

2. Europe ("The Orient Express")

This is possibly the most exotic of all our examples. Revived soon after the demise of its historic predecessor, it is operated by a private enterprise (though over the tracks of state railways), is madly luxurious, very expensive, and positively drips chic, "heritage", and the legends of Agatha Christie and the roaring twenties. Meals aboard its dining car are very good and, again, very expensive. All of this is publicized heavily and expertly, with many advertising "tie-ins" with other products, including side-trips and airline transatlantic package tours.

All of its carriages consist of faithfully restored (at a cost of roughly $1 million per carriage) British and continental equipment of the 1920's and 1930's. The train runs between London and Venice, three times a week each way in the summer season, and twice a week at other times, taking roughly 24 hours for the trip. One-way, first class fare is $595. Despite this figure, and the fact that the full trip includes a 1 1/2-hour sea-level confrontation with the English Channel, the load factor has lately averaged 80%. True profit has not yet appeared, and the train has had to be subsidized out of the other earnings of its parent company. Profit is predicted within a year or two.

The following excerpt from the "Orient's" publicity brochure is of some interest:

> "The train is, as always, privately owned and run. In all its history the Orient Express never had one mile of track or one locomotive to its name.
>
> "As ever, these belong to the state railways over whose lines we run, and we would like to thank the national railways of France, Italy and Switzerland and British Rail for their help. It goes beyond courteous co-operation to something much warmer -- no doubt because great trains like this still have the power to fire enthusiasm.
>
> "The owners -- and we see ourselves not *just* as the owners, but as trustess of a mobile European treasure -- are Venice Simplon-Orient-Express Ltd., a member company of the Sea Containers Group."

Further information about the "Orient" will be found in Appendices IVa and IVb.

What is there chiefly to be learned by Canadians from this operation? We must doubt very much that it could be successfully replicated on a whole-train basis within Canada: among many other factors, the Agatha Christie tradition-base is lacking. It does usefully demonstrate, however, that there is still a certain public prepared to pay well for luxurious train travel, that "heritage" in general can be an effective marketing tool, and that the clear determination of a management to run a train as an undoubted "class" operation may well elicit better performance from operating and on-board crews, and from the managements of host railways.

3. South Africa ("The Blue Train")

Like the "Orient Express", this is an all-luxury operation. It runs three times a week each way between Cape Town and Pretoria, taking a little over 24 hours for the trip. Maximum passenger load is 104. The dining car is famous. As aboard the new American long-distance trains, electric power for heating, lighting, air-conditioning and all other on-board purposes is supplied from a single source at the head of the train. This is customarily referred to as "head-end power". It is now generally accepted to be more reliable and cost-effective than the more decentralized system of steam-heat and power supply in use aboard present Canadian transcontinental trains.

Load factors aboard the "Blue Train" are high, but the train must be subsidized. One of the principal justifications advanced for this subsidy is that the train is believed to be a highly effective focus for the promotion of South African tourism. For some tourists, it is believed to be the marginal factor that finally decides them to visit South Africa.

Some further information about this train will be found in Appendix VI.

4. Australia ("The Indian-Pacific Express")

This may be in some ways the most relevant example of all for Canadian purposes. The train is a true transcontinental, running three times a week each way between Sydney on the Pacific Ocean and Perth on the Indian Ocean. On three of the four "off" days, there is a more ordinary service between Perth and Adelaide, with connections to and from Sydney.

Accommodations aboard the "Indican-Pacific" cover a fairly wide range, from luxurious (showers, gourmet cuisine, etc.), to modest. It has space for 150 first-class passengers. Like Canadian transcontinentals, it is multi-functional, providing certain amounts of intercity and even local service, as well as a major Australian tourist experience. Promotion, however, strongly stresses the touristic advantage of seeing the real Australia, first hand. The train has a considerable international reputation.

Much other useful information about the "Indian-Pacific" is contained in the following excerpt from a letter from the Chairman of the Australian National Railways Commission:

12 September 1983

"Dear Professor McQueen,

I refer to your letter dated 8 August 1983 requesting some information regarding our Indian Pacific Operations. Your letter confirms my belief that there is a great deal of similarity between the challenges faced by most Railway systems and that it is indeed a good idea to explore these and share experiences; more so in our case because some of the problems, and I am sure you will agree, are unique to us, especially those created by small population centres separated by great distances.

In the first part of this letter I shall attempt to answer the queries raised by you and in the second part, I shall endeavour to put them in their historic and operating perspective.

1. On the Indian Pacific Express, in 1981/82, we recovered 67% of our direct operating costs. The trend however has been one of diminishing cost recovery. Attempts are being made to reverse this trend and recover all direct operating costs within the next five years.

2. The principle goals are: the provision of interstate passenger links, generate and cater for tourist traffic; provide a rail link between Western and Eastern States as part of the agreement on federation which imputes an obligation to what you rightly call "the heritage" attachment to a mode of transport that was considered as of vital importance in the history of this country as well.

3. The predominant goal however is to provide an interstate passenger rail link using infrastructure facilities that are already there by a mode which is the most energy efficient and cost effective per unit capacity offered.

4. There are important spin off benefits such as being prepared to transport relatively large numbers of persons and equipment should the need arise, touristic attractions which we are promoting inside and outside the country, availability of an energy efficient transport mode, availability of well trained transport professionals experienced in handling large scale passenger transport in both operational and technical fields.

5. The subsidy of around 33% on this train service may be justified on five counts:

   A. That it is a subsidy only on a short term basis - to tide over a period of recession and change, that everything possible is being done to revert back to covering all operating costs.

   B. That joint and common costs in railway operations being a large proportion of the total costs, eliminating a passenger train service will not reduce that cost by any significant proportion. In point of fact, investment on rolling stock may be considered as sunk and more cost-effective alternate uses for them are not available.

   C. That industrial unrest and loss of morale arising out of abandoning this service though unquantifiable is still believed to be substantial.

   D. That this service is considered as the "flag carrier" of railway operations in providing one of the great train journeys of the world which in addition offers a choice of an alternate mode at differing costs. Though these two offer only unquantifiable "prestige" value, (in addition to touristic benefits), it is considered important as it spans a continent covering a distance of 3,961 kilometres. We also believe that a nation as a whole becomes aware of a transport link when it carries people. To this extent it helps to promote the rail service in total.

   E. That the trend in the age distribution of the Australian population (as well as the tourist population) is such that their proportion will be increasing and train travel provides them with enjoyable stress-free travel, "a holiday", a sense of togetherness and companionship which no other mode is capable of providing - a nation must provide for their senior citizens.

6. The provision of a high degree of luxury in parts of the train is justified by relating them to the attributes prevailing in the three other modes, namely air, road bus and private motor vehicle. The need is to provide a marketable service in spite of the fact that our trains do not possess the high advantage of speed and frequency of service that air

> provides or high frequency and lower priced services that the road bus provides or the perceived low cost and the flexibility the private motor vehicle provides. We are attempting to fill this need by providing reasonable luxury and comfort in order to promote a "holiday on wheels" concept and no frills yet comparatively comfortable and cheap economy sit-up service in the same trains. Indeed we are even providing a "Motorail" service on the same train, which aims to retain the flexibility of one's own motor car while enjoying stress free and safe long distance travel.
>
> Historically, the need for transport links joining all States was recognised and as everywhere else, rail was the most efficient transport mode available at the time. Population settlement and land development were dependent on it almost completely; so much so, in Australia, one condition for agreeing to the federation was the building of a rail link. The two World Wars and the geographical location of Australia too supported this need....
>
> Yours sincerely,
>
> L.E. Marks,
> Chairman,
> Australian National Railways
> Commission."

Among the features which make the Australian experience of special interest and relevance for Canada are the common factors of great distance, a strong heritage element, an apparent view by many people of railway service as in some sense part of the original and on-going bargain holding a federal state together, the sense also of a vast country that must be seen in the large to be properly appreciated by residents and foreign tourists alike, and the presence of good-quality parallel air and highway facilities, compelling the railway authorities to try to offer an "Australia experience" different in significant respects from what the competing modes provide. Also of considerable potential interest to Canadians is the concept of a transcontinental service offering a very high-class, "flagship" train on certain days of the week, and a more ordinary train on other days.

Further information on the Indian-Pacific Express will be found in Appendix V.

Transcontinental Concepts

Let us now, our information somewhat augmented by a summary view of a number of long-distance trains abroad, develop our possible scenario (one of various possibilities) for transcontinental service in Canada.

Like all operating scenarios in this report, it rests on the major initial assumption set forth in Chapter 1, and discussed in Chapter 2, that the Canadian public and the federal government wish to continue in operation a VIA network of approximately the present size. Virtually by definition, that includes a transcontinental service of the present length and frequency.

Having quite enough to preoccupy us already, we do not here offer any opinion one way or another on proposals from some sources to reinstitute the former overnight service (categorized in the past as part of the transcontinental service) between Montréal and Saint John, and, to the westward, the "northern transcontinental" link between Winnipeg, Saskatoon, Edmonton, Jasper and Vancouver. If these services were reinstituted, in whole or in part, some of the ideas put forward here might prove to have a certain applicability to them. But the question of whether or not they should be reinstituted we leave to others.

A Canadian federal government, having once definitely resolved to continue a transcontinental service for ten years or more, would immediately confront one piece of bad news and one piece of good. The bad news would be the great unlikelihood, under almost any conceivable circumstances, of being able to operate the service without a significant operating deficit, and therefore a significant government subsidy. The good news would be that improvements in the technology of long-distance passenger equipment since the present equipment was first put into service in the 1950's have been sufficient that re-equipping the service with modern, bilevel cars and new locomotives would almost certainly reduce significantly the amounts of operating deficit and operating subsidy. According to careful estimates by the Transport 2000 Canada organization, based in part on actual operating results with this type of equipment in the United States, the payback period on the re-equipment investment, in terms of reduced subsidy, could be on the order of 6 1/2 years.[1]

Let us, for emphasis, put the matter another way, in terms of three options: immediate and total discontinuance of the service, continuance of the service with the present equipment, and continuance of the service with new equipment chosen with reasonable intelligence.

Purely from a visible, dollars-and-cents standpoint of the federal treasury, and presuming discontinuance did not generate heavy demands for capital and operating subsidies to alternative service, the first option would be the cheapest. It has, however, been ruled out here by assumption.

That would leave the second option as the more expensive of the two still available, and the third option as the cheaper. In fact, too, the second, non-re-equipment option would show a rising deficit with the passage of time. As the age of the existing equipment lengthened from 30 to 40 years, the operating deficit would rise, owing both to increasing maintenance costs and to decreasing passenger appeal, relative to available travel alternatives, whose fuel-saving and other technological characteristics would not stand still.

Even if it were only proposed to extend the transcontinental service for another ten years, re-equipment would still be the better choice! It would be cheaper to end with a bang than with a whimper.

But to re-equip a transcontinental train cost-effectively, it is necessary to have in mind beforehand the clearest possible picture of both the "travelling-public" and the "voter-taxpayer" purposes it is meant to serve, of the various particular travelling publics it is expected to attract, and of any particular advantages of its route that can be turned to good revenue effect.

How difficult it is to form such a picture has already been enough discussed. In the light of the considerations brought forward in Chapter 2, and of the foreign experience reviewed earlier in the present chapter, the following general guideline for transcontinental service is proposed:

Guideline A(ii)

> "To provide transcontinental services east and west of Montréal that will serve the Canadian public well, that will provide an unequalled opportunity to appreciate the extent and diversity of Canada, that will both directly and indirectly stimulate the Canadian tourist industry, that will provide convenient service between important centres of population along the routes, and that will be for all Canadians a source of national pride and of enhanced consciousness of national unity, Canadian history, and the heritage of rail transport in Canada."

Let us now try, looking first at the western transcontinental service, then at the somewhat different (in certain respects) eastern service, to give this guideline more operational specificity.

For the western service, the guideline translates into quite a heavy direct and indirect emphasis on touristic and related goals, a considerable emphasis on service between major population centres, and some relative de-emphasis, as compared with the present situation, upon remote-area, flag-stop service to highly rail-dependent places of under 3 000 population along the route. Let it be said at once that such places cannot simply be left hanging; alternative arrangements to meet their needs will be outlined later. But it does have to be borne in mind that frequently stopping and starting a major passenger train is costly, both at the time it is done, and indirectly later on, as poorer schedule-adherence impacts on revenue.

The tourism and "extent-and-diversity-of-Canada" aspects are particularly emphasized in the western service, because in that respect the trains have such a very strong, natural card to play. An immense range of Canadian geography, from the St. Lawrence lowlands, to "North of Superior", to the prairies, to the foothills, to the Cordillera, to the Pacific rain-forest, is all to be seen from their windows in a continuous, "see-level" panorama, uninterrupted by viewer concerns about other traffic. And, thanks both to Nature, and to a nineteenth-century politics that directed the Canadian Pacific's surveyors and engineers not to take the easiest way through three mountain ranges, the particular stretch of line between Calgary and Revelstoke has been judged by generations of seasoned globe-trotters to be among the top ten scenic train-rides in the world. Sir William Van Horne quickly seized the logic of playing that card for all it was worth, and so long as passengers are still being moved over the route by rail, his logic holds.

As in other economic spheres, multiple goals for a train service mean conflicts and trade-offs. How may maximizing tourist appeal conflict with the provision of good intercity links along the route? The main difficulty that arises here is how to provide good, daylight exposure, summer and winter, to all or most of the Calgary-Revelstoke scenic extravaganza, while yet arriving in and departing from Regina at the reasonably civilized hour appropriate to a considerable city and provincial capital. A proposal to trade these desiderata off reasonably will be put forward in the section on scheduling.

Nature of Re-equipment

What re-equipment of the western transcontinental service would be most consonant with the above-discussed goals, as well as with the goal of reducing VIA's deficit?

Re-equipment means substantial capital investment: more than $200 million for a full-re-equipment, and about $100 million for the partial, first-stage re-equipment to be proposed here.[2] Because the rules of sound investment are normally presented in terms of profit-making rather than deficit-incurring enterprises -- and because, too, especially in North America, steady, analytical contemplation of deficitary enterprises tends to be interrupted by guilt-feelings, as of consortation with economic Jezebels -- consideration of capital investment in such enterprises is not always as rational as it could be.

Common fallacies include:

1. Thinking that, because the enterprise is in deficit anyway, trying to ensure that physical capital investment in it is wise rather than wasteful, is not as important a matter as it would be under more profitable circumstances;
2. Thinking, along contrary lines, that because the enterprise is in deficit, optimal capital investment in it must surely be the lowest first-cost alternative (with which may be conjoined a political hope that if the physical result looks cheap,

wary taxpayers will be persuaded that their interests have been optimally attended to);

3. Thinking that, because the return on an investment consists in a reduction of deficit/subsidy, the investment should not be ranked in the same way, on the same scale, as investments where the expected return consists of increased profit.

All these are wrong. What it comes down to is that once there is a prior decision to continue in operation a deficitary operation or service thereof, all of the normal rules of sound investment continue to apply. The investment should be as carefully planned and estimated as any other, with a view to maximizing rate of return, and prospective rate of return should determine its placement in the priority rankings.

In the case of VIA transcontinental service, not the cheapest first-cost train, but the maximum-rate-of-return train, should be the object. To be sure, non-monetary goals of voter-taxpayers, as well as travelling-public, deficit-relevant goals, come in to complicate the picture and impart some degree of special meaning to "rate of return". All the same, it is unlikely that the lowest-first-cost train conceivable will be the optimal train even in terms only of attracting the travelling public and reducing deficit and subsidy. On the other hand, a lavish, railfan's dream is unlikely to be optimal either. Both the broadly conceived and the narrowly conceived optima surely lie somewhere between these extremes. Finding roughly where between them is, of course, no small task, requiring among other things first-rate communicative links between engineering, design and marketing staff.

But there appear to be overwhelming reasons why, whatever the other features of the final choice, it will go to some form of bilevel equipment. Referring again to Transport 2000 Canada estimates, it appears that such equipment

-- as currently being operated, for example, on the Chicago-Minneapolis-Seattle "Empire Builder" -- can transport people at a seat-mile cost of 8.6 cents, compared with a cost of 14.5 cents for present Canadian transcontinental equipment.[3]

A big part of the difference is accounted for by the fact that bilevel cars carry more passengers per car. Train-weight per passenger, and fuel and other costs per passenger-mile, are thereby reduced. Additional advantages of having two "storeys" to work with must also not be overlooked. A bilevel dining car, for example, can seat 78 passengers upstairs and 16 more downstairs. The kitchen is also downstairs, connected to the upstairs by both a stairway and a "dumb-waiter" food-elevator. By contrast, a conventional dining car, with kitchen and dining space all on a single level, can seat only 48 passengers at a time.

Also, aboard bilevel sleeping cars, because the continuous train corridor is on the upper level, some of the accommodations on the lower level can use the full width of the train. Hence an ability to offer spacious and convenient accommodations to handicapped persons, large families, and other passengers valuing these qualities.

Train-space, as may best be perceived in the peak summer season, is a scarce and valuable commodity. Not the least of the attractions of bilevel equipment is that it offers more options, more flexibility, in the use of this space. We shall shortly have occasion to consider this quality further in the case of dining cars.

It would seem very foolish to try to develop, as it were from scratch, a supposedly "all-Canadian" concept of bilevel transcontinental equipment. The development and debugging periods would inevitably be long, and the results uncertain and possibly subject to major cost overruns. With less time and cost, many service-proven features of recent American equipment such as wheel-trucks, heating and cooling systems, and basic carbody structure, could be incorporated into the Canadian design.

To access effectively some of these features, especially where patented, might involve some kind of contractual arrangements with parties in the United States. Should it be the desire of the Canadian government, on employment and other grounds, to have much of the actual fabrication of the equipment take place in Canada, appropriate transborder licensing, consulting and parts-importation could doubtless be agreed. From a standpoint of international trade theory, one could raise the question of whether manufacture under license in Canada was necessarily the optimal arrangement, but given the current high-unemployment environment in North America, wherein Canadian firms marketing passenger transit equipment in the United States are required by "Buy-American" rules to assemble the equipment there, the present would not seem to be the most receptive of times in which to deliver that particular economics lecture.

Where the design of the new equipment should strike out along distinctively Canadian lines is in respect of its internal configuration, accommodation and decor, and of its external appearance and overall style. For, given some of the purposes here being assumed for them, these should be very stylish trains (not the same thing at all as inordinately expensive trains). The first view of them should signal clearly to passengers, employees and others that these are not just like other trains, whether on VIA or other systems -- that these are important, distinctive, unique trains -- that they offer a travel experience just that certain amount different from any other, on the ground or in the air. They should evoke something of the territory through which they pass, including something of its history, and of the best, historical traditions of their more illustrious passenger-train predecessors (in this case, Canadian Pacific predecessors). Their arrivals and departures should be events, more important than those of other trains, and some mild stage-management should be put into these events. Their on-board service should have a particular snap and style. To Canadian and non-Canadian passengers alike, the trains should say something favourable about what Canadians can do when they really try. They should be trains that Canadians will unhesitatingly recommend to good friends from abroad.

Further to the evoking of predecessors, the newly-equipped western trains should bear the name of a famous train of the past. "The Imperial Limited" -- "l'Impériale" (the latter meaning "upper level" on a moving vehicle) would have a certain sonorous grandeur. CP Air has for some time been offering aboard some of its aircraft an "Empress class -- class impériale". But old political connotations, unpleasant to some people, might argue for rejection of this name in favour of "Great West Express".

In another reference to a more recent past, since these trains would have their own, specialized locomotives, and since these locomotives, along with the rest of their trains, would have to be turned at their termini, there would seem no major functional reason why their front ends should not revive all or part of the comely streamlining of an earlier generation of diesel-electric locomotives. At the rear, consideration might be given to rounding off the trains with something like the striking and passenger-popular ex-Milwaukee-Road "skydome" lounges, operated for a time in CN transcontinental service.

Since the trains would run almost entirely on CP lines, wall-illustrations, staff uniforms and internal colour schemes (a certain amount of red and gold) might make some appropriate reference to Canadian Pacific history -- which is, when all is said and done, a not-unimportant part of Canadian history generally.

Individually, all these things would be details; together, they would do much to make the trains look and feel agreeably distinctive, in a particularly Canadian manner.

As to the actual range of on-board accommodations, everything we know of the Canadian market for rail passenger service, and of Canadian democratic traditions, would seem to argue for a fairly wide range -- from standard coach, to "day-niter", to various kinds of sleeper accommodation. Canadians with a wide range of travel tastes and budgets should be able to find what suits them aboard these trains.

As to the difficult task of optimizing the balance between revenue-passenger space and "other" space -- such as food-service, beverage-service and lounge space -- this is clearly a matter for extremely careful joint planning and research both by engineering and marketing experts. The only thought offered here is that the various particular decisions making up the total balancing should always be made in relation to first-rate market surveys of what it is, overall, that induces people to take the train. The concept of "whole-train" economics should be very much to the fore. If the abilities to stretch, walk about, chat over a drink with other passengers, and be served one or more sit-down-at-table meals per day, show up as important "pluses" in attracting passengers, then undue constriction of space devoted to these purposes is likely to prove uneconomic -- penny-pinching and pound-foolish. Extending this principle, no space or other aspect of on-board service should ever be considered in isolation, without regard to its impact on ticket revenue. And it should always be remembered that because Canadian transcontinental trains face such strong competition from other transport modes, their operators must strive hard to establish a particular, distinctive niche for them in the total, long-distance travel market.

One final suggestion about accommodation aboard the trains is put forward with special care and caution. It has already been proposed that the trains offer a wide range of accommodations. It is now further proposed that at the high end of this range, a small proportion of total space -- perhaps, initially, in the last car of the train only -- be allocated to very luxurious accommodation indeed, with showers and the like.

This "super-Great West" service is proposed for two reasons. First, the experience of the "Orient Express", of some ocean cruises, and of sporadic private-railway-car tours of North America, indicate that there is a certain public prepared to pay well (as it should, of course, be asked to pay) for this sort of "traditional" (minus the flying cinders and jerky starts) high luxury. Second, and in some ways more important, knowledge that there is a small amount of such scandalously expensive accommodation aboard the train would add a certain excitement, even a touch of mystery, to the train in the eyes of all its passengers. This might have usefully positive marketing effects. It would appeal to what some members of Parliament and others might very well regard as regrettable human weakness; but if weakness it indeed is, it is also a very hard and well-known marketing fact.

At all events, "super-Great West" service might be tried for some time on a small scale to see if it appeared to improve the overall economics of the trains. If it did not, the relevant train-space could probably be altered to less luxurious standards without undue cost or difficulty.

Dining Car Strategy

Generally speaking, the longer the journey, the more on-board food service is an important consideration to rail passengers -- and the more important a problem it is, therefore, to the operators of the train. On a two-to-three hour Grande Vitesse journey, even the food-conscious French appear to concur that a very basic food-service only is quite sufficient. But on a western Canadian transcontinental train, the total trip-time runs upward of 60 hours (at present, well upwards), with the consequence that food service becomes a much bigger problem.

As already suggested, there are no easy answers. As a general rule, the highest prices that it is felt expedient to charge for dining-car meals generate a revenue that does not come close to the direct, "avoidable" cost of providing the meals. Furthermore, dining-car seats do not, as other train-seats do, generate direct ticket and other space-occupancy revenue. Hence a strong tendency, dating back generations, to identify dining cars as economic disaster areas aboard trains.

Yet if the cost and quality of meal-service are cut back too far, revenue-generating seats begin to empty elsewhere on the train. Especially now that airline meal service is tending to become more basic and even perfunctory, the prospect of non-basic meals may even be increasing in importance as a marketing factor inducing people to take the train. As we have seen, a few long-distance rail services -- the South African "Blue Train", the Australian "Indian-Pacific Express", the "Orient Express", and private railcar excursions in North America -- offer gourmet-standard meals and stress them in their marketing. The last two cases being private-enterprise, it is evident that they perceive on-board food service as being, in some important sense, a tool for making money!

It adds perspective to the food-service problem to view it, for a time, not as a problem-part of railroading, but rather as a problem of restaurants with peculiar difficulties. The main "restaurants" now in service on the Canadian can serve 48 clients per sitting. Going bilevel would increase the restaurant capacity to 78 upstairs and 16 downstairs, for a total of 94.

Off-rail, many small restaurants in Canada, able to serve no more than 48 to 94 people at a time, operate profitably. Their kitchens are mostly larger than those aboard dining cars, but that does not seem to be too critical a factor except in the case of highly mechanized fast-food operations.

Some of these smaller, off-rail restaurants are basic snack-bar or cafeteria operations; some combine take-out with sit-down service; some are among the best gourmet restaurants in the country, figuring in numerous food and travel guides. Some charge high prices, some medium, some low. But in all categories, numerous, consistent money-makers are to be observed.

Why can this financial performance not be matched by long-distance railway dining cars? There are four chief reasons:

1. In urban areas particularly, small restaurants tend to specialize, gearing their operations primarily to fairly narrow classes of client and reaping major economies thereby. Transcontinental dining cars cannot do this: they must serve a very broad client group, and, especially at the evening dinner-hour, the presence aboard the train of a supplementary snack-bar facility does only a limited amount to relieve this condition;

2. Dining cars have particularly serious peak-trough problems. At the evening dinner-hour, they must feed, at least in the summer season, hundreds of people, and woe betide VIA's public relations if they fail to do this reasonably well within a reasonable time period! (The quick-dollar temptation to overload a long-distance train with passengers beyond the capacity of its on-board food

service should always be resisted, if necessary by a reservations-only policy for all train space.) Yet, during other, long periods of the day, the dining car is deserted and earning nothing;

3. Off-rail restaurants have peak-trough problems too, but also far more flexibility in dealing with them. Chiefly, they deal with them through the use of part-time staff, often non-union. On the rails, not just union rules, but other considerations as well, prevent resort to this device. If a storm or rock-slide delayed a train's arrival at a part-time staff pickup point, it would not be able to serve a proper dinner to all of its passengers who wanted one;
4. Unlike long-distance, rail-borne restaurants, with their associated dormitories, off-rail establishments do not have to put themselves to the expense of consecrating valuable space to the sleeping and relaxation needs of staff, or of compensating staff for away-from-home layover costs at termini.

As originally introduced by CP Rail in 1954, the Canadian (a train offering passengers an unusually generous ratio of non-ticketed to ticketed space) coped with the food-service problems by providing sit-down meals in a standard, 48-seat, single-level dining car, plus lighter and less expensive meals in a lounge-snack-bar space. What CP (and indeed CN also) basically did in the 1950's was to put on rails two of the dominant types of restaurant in Canada at the time.

Since then, few aspects of Canadian life and society have changed so much as have eating habits and patterns of food-service establishments. Among the more important changes have been:

1. An enormous increase in public interest in good food and "eating out", and in the number and variety of restaurants and other establishments catering to this interest;
2. Less insistence on hewing continuously to basic "meat and potatoes", and much more appreciation of

a wide variety of "ethnic" and other alternative cuisines;

3. Yet, partly as a function of the much greater number and variety of restaurants available, a public willingness to accept a high-quality, limited-menu policy on the part of many of these restaurants;

4. A much more general acceptance by middle and upper income groups of quality salad-bars and hot-and-cold buffets as a perfectly respectable form of meal service in many circumstances;

5. At the lower-priced end of the range, an explosive growth of "fast-food" outlets, offering take-out service, tray-and-table service, or a combination of the two;

6. A willingness on the part of many people to mix low-priced and high-priced meals over the day, such that a businessman may see nothing odd about lunching out of a "brown bag" or takeout carton, or from a cafeteria tray, then dining that evening, for purposes of business and/or pleasure, in a first-class restaurant;

7. More disposition to eat brunches, snacks, etc., at off-hours during the day and later evening -- subject, however, to a continuation of strong "peaking" during the conventional evening dinner period of, say, 6 p.m. to 8 p.m.

No single, consistent trend is to be observed. What we see, rather, is more variety -- more options. Some of these tend to worsen the railway food-service problem; others to offer some possibilities of ameliorating it.

The continuance of heavy dinner-time peaking is surely not helpful. It means that a transcontinental dining car must, among other things, be able to handle expeditiously and otherwise satisfactorily a rush of hundreds of clients during this period. This severely constrains the menu options that can be offered to clients at this time, and also implies serious, expensive under-utilization of dining-car capacity at other times.

In general, the McDonald's or Burger-King type of fast food outlet would appear to have only limited and fragmentary value as a model for on-rail service. First, the economics of most such outlets is geared to a daily client-throughput equivalent to several transcontinental trainloads of passengers. Second, to provide their fast, high-volume service, they typically use far more bulky capital equipment than could be fitted aboard a railway car. Finally, they are among the most effective of all users of a kind of labour that railways cars cannot use except in a summer-winter seasonal sense: part-time labour.

Other recent trends, however, could be more helpful to the economics of on-rail food service. Obviously, anything which would smooth out peaking and troughing, and which would make it possible for dining car space and facilities to earn more dollars in the off-hours of the day, would be welcome. In this connection, the tendency towards more off-peak eating in the pre-dinner part of the day, the generally greater acceptability of limited-menu restaurants and quality buffet service, and the greater disposition to be satisfied with a light and inexpensive lunch if something more solid is in prospect later on, could all conceivably be used to make dining cars more cost-effective.

It is worth, too, keeping in mind two long-established food-service traditions of European and Japanese railways, which may now be ready for wider adoption in North America. In the first-class sections of many secondary passenger trains in Japan, cunningly designed and stocked push-trolleys are moved up and down the aisles continuously, supplying hot green tea plus a far wider and more attractive range of other drinkables and eatables than were ever seen aboard the wagons of old-time, Canadian railway "news-butchers".

And in Japan and Europe alike, the custom of selling in major stations attractively packaged box lunches, along with suitable beverages, dates back many generations. It is perhaps not especially relevant for Canadian transcontinental service, but as will be noted later, it could, in conjunction with on-train radio, be a custom worth encouraging on some other routes.

Returning to dining cars, the point has been made that one of their basic economic weaknesses is their inability, over any short period of time, such as 6 p.m. to 8 p.m., to cater to any more than one or two of the varied and specialized food-service demands that Canadians have developed in such profusion over the last two or three decades. Especially when the evening rush is on, they cannot meet variously specialized demands with variously specialized supply: they must instead serve a limited, "consensus" sort of menu, at a consensus price, and hope that that will not be too displeasing to too many customers.

But bilevel equipment opens out the options just a little wider, and there are also interesting possibilities of meeting a wider range of specialized customer demands, as to both price and other features, over the course of the day as a whole.

To this end, it would be desirable for new bilevel dining cars in transcontinental service to be notably flexible and adaptable in certain respects. For example, tables should have surfaces such that they can be used with or without tablecloths. It should be possible quickly to set the main, 78-seat dining compartment for one kind of service, then to clear it quickly, then to reset it quickly for another kind of service. It should also be possible readily to fold away or change the alignment of two or three tables near the main dumb-waiter to the kitchen below so that hot and cold buffet-service and salad-bar equipment can be rapidly deployed. For general future reference, it should also be possible to divide the main dining compartment into two by the insertion of a light, aircraft-type bulkhead at two or three different possible points. This kind of fast-changeover configuration is common enough in motel and other stationary restaurants; only on rails has it so far made little appearance.

One conceivable sort of day in the life of a new transcontinental dining car might run like this. From 7:30 a.m. to 9:00 a.m., a continental breakfast might be served at table. From 9:30 a.m. until 2:00 p.m., a continuous "brunch Great West" might be available, served in hot-and-cold buffet fashion, with passengers carrying their own loaded plates to tables in the dining car. Earlier on, the available items might be more oriented towards egg and other large-breakfast dishes; later, more lunch-like items would be emphasized. Between 4:30 p.m. and 5:30 p.m., a very limited-choice, low-priced -- incentively priced, to "beat the peak" -- early dinner, or as some might call it, "high tea", would be served. Finally, at 6:00 p.m. or 6:15 p.m., successive sittings of standard dinner, with all seats reservable in advance, would commence.

The purpose of this general kind of _modus operandi_ would be:

1. To meet a wider variety of passenger food desires;
2. To reduce the peak-trough problem;
3. To keep the valuable dining-car space alive, interesting, working, and earning money over more hours of the day;
4. To reduce the need for a secondary food-service facility aboard the train to something fairly basic such as a small snack-bar and push-trolley servery, thus releasing more space for passenger seating, bar-lounge, and other important purposes.

It would be essential (as it should always have been deemed essential aboard long-distance trains) to provide to every passenger, upon boarding, a simple, printed outline of what was to happen, and where and when, in respect of food service. This information would be supplemented *en route* by clear, timely announcements over the train's internal communications system.

Again, a suggestion for one further variety of service is put forward with much caution. Bilevel dining cars have, in addition to their main, upper-level dining compartment, a lower-level space adjacent to the kitchen, where 16 more passengers may be seated. It is suggested that the experiment be tried of making this a small, high-priced, reservations-only gourmet facility. Its great *pièce de resistance* would be two sittings of lunch -- lunch, because not so many of the available on-board staff would be required, in the kitchen and upstairs, to look after the proposed "brunch Great West". This downstairs lunch ought to be good enough to merit mention in most tourist guides. In the evening, because of greater upstairs pressure on staff, the "super-Great West" service downstairs would not be quite so distinctive. It would merely be a very superior version of the upstairs menu, with some fine wines and other extra trimmings.

There would be some tradition behind this small-scale experiment in luxury dining. Half a century ago, if some discriminating foreign visitor had asked where in western Canada he might best sample such regional specialties as Lake Winnipeg goldeye, Alberta prime rib, or Pacific salmon, the answer might well have been aboard CN and CP transcontinental dining cars. Similarly, an ambitious restaurateur of the period, seeking to hire good-quality kitchen and other staff, might have been well advised to look for some dining car alumni. Transcontinental dining cars were then, as they might yet be again, if in a far more demanding age, a not-unimportant Canadian training school of cookery and general food service.

Traditions do not always revive successfully, but a relatively small-scale, easily reversible test of whether top-class food and drink for those who cared to pay for it was as effective a whole-train promotional tool in Canada as it is evidently judged to be aboard some non-Canadian trains might be worth attempting.

To conclude this section on dining cars, its purpose, as in the case of the chapter as a whole, is not to propound an "only-way" scenario. It seeks instead, by illustration, to stimulate thought, and to suggest that whatever may have been the optimal means of dealing with the transcontinental rail food-service problem in the 1950's, new equipment, and above all new food habits, make it highly likely that the optimum to be sought today is a different one in some important respects. A flexible dining car configuration, and flexible, experimental thinking to go with it, will aid the search.

To be sure, there will always be simple minds to believe that in a deficitary environment, most of the complexity of ordinary business decision-making can be dropped in favour of some such simple rule as, "Cut gross food-service costs to the bone", "Do as the airlines do", or "On-board food service must directly pay for itself". They are quite wrong. Prolonged, hard thinking, and willingness to learn from experience, are as relevant to this as to any other difficult business problem.

Re-equipment Timing

It is recommended that a first-stage bilevel re-equipment of the western transcontinental service be carried out sufficient to cover three departures a week each way and leave some equipment in reserve. (Bilevel equipment with head-end power cannot be interchanged with existing equipment.)

Despite strong political and other temptations to the contrary, the designing and placing in service of this equipment should be carried out with great care and deliberation. Prototypes should first be built and thoroughly tested and debugged. Then, as more equipment is delivered, it should be placed in test service on one of VIA's shorter runs, such as the overnight links between Toronto and Montréal. Only when the likelihood of such untoward events as a heating breakdown in White River in January, or a sudden cessation of air-conditioning in Kamloops in July, has been reduced to a very small percentage, should the equipment enter transcontinental service. Even then, events like the above, plus various debugging and other problems, should still be expected once in a while, and clearly understood emergency procedures for dealing with them expeditiously be in place.

The staged ordering of equipment is recommended for three main reasons. First, it will provide VIA with an opportunity to gauge the travelling-public acceptance of the design of the new equipment, and to change the design on second-stage orders if this seems indicated. Second, it will provide the voters and taxpayers with more solid information on which to base *their* judgment of the re-equipment initiative before it is wholly a foregone conclusion. Finally, it will provide equipment suppliers with a stronger incentive to do a first-rate job both of production and of after-sales service, in the hope of receiving further, stage-two orders.

At the end of the first stage, the western service would be of an Australian type, with three departures a week each way of newly equipped trains under the *Great West Express* name, and four departures a week of existing equipment under the *Canadian* name.

Train Scheduling

Transcontinental trains cannot be bullet trains, but it is hard for travellers and other members of the public to accept, as a fully serious attempt at transcontinental service, trains that lay over in Winnipeg for three hours and spend four nights in transit between Montréal/Toronto and Vancouver. Arguments that this slowdown, relative to earlier schedules, makes for economy, are seriously flawed by the extra equipment and crewing costs necessitated by four-nights-out.

It is recommended that the western schedule be speeded up again to a three-nights-out basis, along roughly the lines recommended by CTC in 1977 (see Table 5.1). One small reservation is added. CTC's proposed schedule resolves the Regina "trade-off" by having the westbound train slow to a relatively leisurely pace between Winnipeg and Regina, departing from the latter city at 7 a.m. But that sacrifices a fair amount of mountain-viewing further west, especially in the early-sunset winter months.

One wonders if, given certain relatively minor adjustments to one or two key connecting services in Montréal and Toronto, the westbound transcontinental departure times from those two metropoli might not each be advanced two hours, and the westbound departure time from Winnipeg correspondingly advanced two hours. It should then be possible to speed up the movement from Winnipeg to Regina enough to permit a midnight westbound departure from Regina and thus more daytime in the mountains.

One wonders too, if the eastbound departure from Vancouver could not occur about an hour earlier, to permit an earlier eastbound departure from Regina.

Table 5.1

(1977 CTC - RECOMMENDED WESTERN TRANSCONTINENTAL SCHEDULE)

FINAL PLAN
CONDENSED NORMAL SERVICE SCHEDULE

WESTBOUND (READ DOWN)								EASTBOUND (READ UP)				
3/WK	3/WK	3/WK	DAILY	DAILY				DAILY	DAILY	3/WK	3/WK	3/WK
				1200	Dp	MONTREAL	Ar	2200				
				1420	Dp	OTTAWA	Dp	1950				
				2010	Dp	NORTH BAY	Dp	1345				
				2155	Ar	SUDBURY	Dp	1210				
				1555	Dp	TORONTO	Ar	1805				
				1735	Dp	BARRIE	Dp	1625				
				2200	Ar	SUDBURY	Dp	1205				
0940		2215		2300	Dp	SUDBURY	Ar	1105		1115		1900
1800		↓		0630	Ar	WHITE RIVER	Dp	0325		↑		0930
		↓		1325	Dp	THUNDER BAY	Dp	2055		↑		
	1000	2300		↓	Dp	CAPREOL	Ar	↑		1030	1930	
	2205	0940		↓	Ar	NAKINA	Dp	↑		2340	0750	
		2110		2045	Ar	WINNIPEG	Dp	1110	←	1045		
			2145	2215	Dp	WINNIPEG	Ar	0940	1010			
			↓	0100	Dp	BRANDON	Dp	0710	↑			
			↓	0700	Dp	REGINA	Dp	0100	↑			
			↓	0805	Dp	MOOSE JAW	Dp	0010	↑			
			↓	1200	Dp	MEDICINE HAT	Dp	1805	↑			
			↓	1550	Dp	CALGARY	Dp	1450	↑			
			↓	1805	Dp	BANFF	Dp	1220	↑			
			0815	↓	Dp	SASKATOON	Dp	↑	2359			
			1545	↓	Dp	EDMONTON	Dp	↑	1600			
			2150	↓	Dp	JASPER	Dp	↑	0955			
			0540	0340	Dp	KAMLOOPS	Dp	0040	0015			
			1505	1120	Ar	VANCOUVER	Dp	1705	1455			

Must this faster schedule await the arrival of new bilevel equipment? Since it is not _that_ much faster, there appears to be no compelling reason why it should. Indeed, to restore a faster schedule sooner than that would restore credibility to the transcontinental enterprise, arouse greater interest in the re-equipment project, and prepare the way for a better public reception to it. Also, at the end of the first stage of re-equipment, _Great West Express_ and _Canadian_ equipment could be operated on readily comprehensible common schedules.

The Off-Season Problem and History/Heritage Features

Strongly seasonal fluctuations in patronage are a long-standing and continuing problem of western transcontinental services in both Canada and the United States. While in a way serving to underline the touristic importance of the trains, they are a major economic weakness. Even with its present, aging equipment, The _Canadian_ runs very full in the summer months. In the winter, however, even though its "consist" is abbreviated, its load-factor declines significantly.

Anything which can be done at reasonable cost to ameliorate this problem is obviously desirable. Again, the route of the train is unusually helpful in one respect. More than any other transcontinental route, it gives ready access (no more than an hour to one and one half hours from trainside) to several world-class ski areas. Following re-scheduling and re-equipment, VIA should be in a position to market, even more vigorously than it already does, train-based ski-packages.

Two other off-season concepts might also be considered: "rolling convention" and "rolling classroom". Off-season, organizations might be offered special group-rates and special facilities in a dedicated, forward section of the train, to hold conferences or conventions on the move, as some conventions are already held aboard cruise ships.

In conjunction with educational authorities, somewhat similar arrangements might also be made to offer, off-season, two-day or three-day "rolling classroom" experiences, emphasizing Canadian history and geography, to properly organized and supervised school groups.

Further to emphasize the history/heritage aspects of the trains, attention might be given to making the waiting rooms for the trains in major cities mini-museums of Canadian geography and history, and of railroading past, present and future. One particularly apt station in which to start this process might be that of Calgary, where the good offices of the nearby Glenbow Museum might be enlisted to help initiate the project. Video displays and motion exhibits, such as the working model of the CP line through the spiral tunnels once mounted by the Ontario Science Centre, might be included. In time, some waiting rooms might become sufficiently interesting that they would be visited by school groups and others for their own sakes, as well as for purposes of boarding and deboarding trains.

The Eastern Transcontinental Service

Much that has been said above about the western transcontinental service -- especially as regards matters of general style and strategy -- may be applied also to the eastern transcontinental service between Montréal and Halifax. Here again, the aim should be new, more cost-effective bilevel trains that stand out from other trains.

There are, however, some important differences between the two services to be taken into account. One of these is length. The eastern run is much shorter -- less than a third as long as the western one. Also, the existing train, the Ocean Limited has one of the better annual load factors of the VIA system, reflecting in part the greater relative importance of its basic-transportation and intercity-link functions in the area it serves.

This is not to say that the train does not have a tourist function as well. The Atlantic provinces are, of course, a prime tourist destination for Canadians and non-Canadians alike. But the train, although offering some exceedingly pleasant panoramas, is for tourists more a means of accessing the general area than of directly viewing some of its more famous scenic spectacles. The Cabot Trail, unlike Mount Stephen, does not rear dizzyingly into the air at lineside.

In short, the intercity and tourist functions are both important here, but the intercity function more important, relatively, than in the west. This fact, and the shorter journey, point to the likely desirability of a modestly different internal configuration and service pattern aboard a re-equipped version of this train than aboard its western counterpart.

Again, it is suggested that there be a first-stage re-equipment of this service sufficient to cover three departures per week each way, with the other four days continuing to be covered by existing Ocean equipment. At the end of the first stage, ridership and financial results of the re-equipment could be assessed, supplier performance evaluated, and voter-taxpayer opinion sounded.

Again, too, it is suggested that the new trains be stylish and distinctive, and that they bear some such traditional name as the "Maritime Express", along with colourful visual references to CN and Intercolonial Railway predecessors. The history books have not done justice to the Intercolonial.

Overshadowed by the Canadian Pacific, it is not a name readily recalled by most Canadian high-school graduates. It is too much forgotten that the Confederation accord also obligated the new Canadian government to build a long railway to the Atlantic Ocean, and that this, too, was a difficult and remarkable project in the context of its times. The new trains could do something to remedy this improper underemphasis.

In further ways than historical, an eastern transcontinental train ought to reflect the region which it serves. Among other things, some extra thought might be given to making lounge facilities aboard the new Maritime Express places which would acquire some national reputation for pleasant conversation and conviviality -- even, perhaps, running to some singing and other live music from time to time, within the reasonable limits imposed by other passengers' desires for tranquillity. This should be a "fun" train.

It is not recommended that, in the first stage, the small-scale western experiment in high-luxury accommodation and dining be replicated aboard the eastern service. Should the western experiment prove successful, then it might be considered for the eastern service also in stage two. Meanwhile, however, other suggested lines of experimentation in food service could well prove relevant here too. One would hope, in addition, to see the dining car of the Maritime Express acquire a good reputation for fresh seafood and other regional specialties.

To assure connections between the eastern and western transcontinental services, the recommended restoration of the three-nights-out schedule westward would require that the eastbound departure of the eastern transcontinental trains from Montréal be retarded until 11:30 p.m., as per Table 5.2. If the westbound departure from Montréal of the western transcontinental were advanced by two hours as recommended earlier, a somewhat

Table 5.2

(1977 CTC - RECOMMENDED EASTERN TRANSCONTINENTAL SCHEDULE)

Transcontinental Services

The pattern of service for transcontinental trains is as follows (refer to Schedule 1):

Schedule 1

FINAL PLAN SERVICE PATTERN: TRANSCONTINENTAL

Eastbound (Read down)					**Westbound** (Read up)	
OCEAN	**ATLANTIC**				**OCEAN**	**ATLANTIC**
1600 (Th)	—	Dp	Vancouver	Ar	1145 (Th)	—
1750 (Su)	1050 (Su)	Dp	Toronto	Ar	1620 (Mo)	1620 (Mo)
1630 (Su)	0920 (Su)	Dp	Toronto (Local)	Ar	1550 (Mo)	2225 (Mo)
1910 (Su)	1400 (Su)	Dp	Ottawa	Ar	1240 (Mo)	1350 (Mo)
2330 (Su)	**1835 (Su)**	**Dp**	**MONTREAL (Central Station)**	**Ar**	**0920 (Mo)**	**1055 (Mo)**
0305 (Mo)	↓	**Dp**	**LEVIS**	**Ar**	**0525 (Mo)**	↑
1030 (Mo)		**Dp**	**MATAPEDIA**	**Dp**	**2215 (Su)**	
1200 (Mo)		**Ar**	**CAMPBELLTON**	**Dp**	**2245 (Su)**	
↓	**2130 (Su)**	**Dp**	**SHERBROOKE**	**Ar**	↑	**0805 (Mo)**
	0715 (Mo)	**Ar**	**FREDERICTON JCT.**	**Dp**		**2359 (Su)**
	0830 (Mo)	**Ar**	**SAINT JOHN**	**Dp**		**2300 (Su)**
1645 (Mo)	**1050 (Mo)**	**Ar**	**MONCTON**	**Dp**	**1800 (Su)**	**2015 (Su)**
1820 (Mo)	**1230 (Mo)**	**Ar**	**AMHERST**	**Dp**	**1620 (Su)**	**1835 (Su)**
2015 (Mo)	**1425 (Mo)**	**Ar**	**TRURO**	**Dp**	**1425 (Su)**	**1655 (Su)**
2140 (Mo)	**1600 (Mo)**	**Ar**	**HALIFAX**	**Dp**	**1250 (Su)**	**1530 (Su)**
1715 (Mo)	—	Ar	Gaspé	Dp	1515 (Su)	—
—	0810 (Mo)	Ar	Fredericton (Bus)	Dp	—	2310 (Su)
2205 (Mo)	1615 (Mo)	Ar	Charlottetown (Bus)	Dp	1225 (Su)	1225 (Su)
—	2045 (Mo)	Ar	Sydney	Dp	0755 (Su)	0755 (Su)
—	2230 (Tu)	Ar	St John's (Bus)	Dp	0740 (Sa)	0740 (Sa)

Notes:

All services are daily (with a sample trip in brackets).

Connecting services are in light face type (Ontario and Western connections are those expected to be placed in effect by VIA Rail in June, 1979. Certain of these have been altered slightly to match ***Final Plan*** schedules).

earlier westbound departure from Halifax might also be advisable to assure connections.

Transcontinental Service: Conclusions and Recommendations

Transcontinental trains have at least one characteristic in common with Expo '67. If they are to be run at all, they should be run with a certain style and distinctiveness.

This makes good marketing sense, and good sense also in a broader context of cost-effectiveness in relation to goals. If the trains are to attract passengers, while satisfying also the symbolic and other voter-taxpayer goals that appear to be entertained for them by many Canadians, they must establish a distinctive niche for themselves in a very competitive travel market. They must offer a travel experience significantly different from, say, something akin to a slow ride across Canada aboard a taxiing 727 aircraft (airline claustrophobia without airline speed). This difference, moreover, should be quickly apparent from the first exterior view of the trains standing in the station, as well as from the first interior view upon boarding.

But the style and distinctiveness required will not be achieved by mere indulgence in conspicuously lavish first cost. It will be achieved only by applied intelligence, and by a well-organized collaboration between engineers, designers and marketing experts. Not the most expensive, nor the cheapest, but rather the highest rate-of-return trains must be the object.

Recommendations

(10) The transcontinental service should be re-equipped as soon as possible with sufficient new bilevel, head-end-powered equipment and new locomotives to cover three departures a week each way on both the eastern and western services. That done, the early returns in terms of ridership, revenues, costs, and general public

satisfaction should be carefully assessed, and a decision reached as to whether further re-equipment investments seem justified --and if so, along what lines, as regards range of accommodations, etc. Bilevel equipment now operating in the United States has proven so much more revenue/cost-effective than older single-level equipment, that a significant rise in the revenue/cost ratio of Canadian transcontinental service, and a reduced operating deficit, can be predicted as a result of bilevel re-equipment.

(11) As an earnest of good intentions, and as a first step in rebuilding public interest in and a larger clientele for transcontinental service, pending the arrival of new equipment, the schedule of the western transcontinental service should be speeded up and returned to a "three-nights-out" basis, broadly as recommended in CTC's 1977 "Final Plan for Western Transcontinental Passenger Train Service". The earlier practice of originating and terminating the western service separately at both Montréal and Toronto, with consolidation and separation of Montréal and Toronto sections at Sudbury, should also be restored, thus putting the national capital back in the transcontinental picture, and eliminating an unsuitably slow train from the Montréal-Toronto portion of the Windsor-Québec corridor.

Chapter 6

OTHER VIA SERVICES AND INTERMODALITY

We turn now to VIA services other than Windsor/Québec corridor services and the transcontinental services. The two main common features of these "third-category" services are that they do not have the passenger-volume and train-frequency of most of the corridor services, and that they do not possess the special cachet of national importance attaching to the transcontinental services. Their product is more in the nature of basic transportation, delivered in modest volume.

Apart from these features, they form a very varied group. Some connect substantial cities such as Halifax and Sydney, Regina and Saskatoon, Calgary and Edmonton. Others, on lengthy runs to places such as Chicoutimi, Churchill and Prince Rupert, serve intervening points such as Bi-Ma, Pit Siding and Mileage 125.7, which have no regular transportation alternatives. We also include in this category service to similar points on remoter parts of transcontinental lines which do not justify stops by the transcontinental trains themselves.

These runs pose a difficult problem for VIA. On the one hand, their very survival to 1984 on the rail passenger map of Canada, when so many other runs have been dropped, bespeaks a degree of continued special importance to people in the areas they serve. On the other hand, as a group (see Table 2.1), they incur a particularly high average operating loss per passenger/kilometre.

Simply to start chopping away the third-category runs with the highest loss ratios is not a practicable solution, if only because it is precisely some of these runs which provide remote-area service to people without ready transportation alternatives.

The different resolution to be proposed here is based on a series of principles, of which the first four are:

(1) The relevant service-product in this category is basic passenger-transportation, of reasonable comfort, but without the major national-unity and similar add-ons of transcontinental service;

(2) Factors such as population-base, and also, in some intercity cases, actual and potential excellence of air and bus alternatives, render these runs unlikely candidates for successful upgrading into high-frequency ISR or HSR services (this admittedly involves a judgment which some might dispute in a case such as Edmonton/Calgary);

(3) VIA should carry a continuing responsibility to ensure that acceptable basic transportation is provided to the public along all of these routes;

(4) But given the obvious financial problems, where load-factors are particularly low and losses particularly deep, VIA should be granted wide latitude to propose a more cost-effective means of providing basic transportation of at least equal standard to what now exists.

In order to move on from these principles to specific, practicable applications, we must first do two additional things. First, we must provide some procedure for calculating a threshold of, "...where load-factors are particularly low and losses particularly deep...". Second, we must have some way of dealing with the possibility that people in a region, for touristic or other reasons special to that region, may so much want a service to continue to be provided in the form of a conventional train that they are prepared to make some regional taxpayer contribution to maintaining the service.

As to the threshold beyond which VIA would have wider latitude to propose transportation alternatives, this study is not the proper place to calculate it. But it should be calculated, by appropriately qualified experts, in terms of passenger/kilometres per train/kilometre, and revenue cost/ratio. In other words, there should be some specific level of train-loadings and cost-coverage below which a broader search for alternatives is triggered.

As to special, regional train-needs, a legislative provision such as the 403-b provision in the United States, whereby a province might negotiate joint financial support with VIA and the federal government of the particular service in question, would seem to be the obvious answer.

Now let us stipulate an important principle governing procedure where below-threshold train-loadings and revenue-cost ratios have triggered a search by VIA for a more cost-effective alternative. When, in due course, an appropriate proposal is developed, it should never ask, or even merely appear to ask, the immediately affected public to choose between a passenger train and nothing -- or next to nothing -- or what might all too easily evaporate into nothing, within a year or two. Given that choice, people will always vehemently refuse the nothing, and so signify to their Parliamentary representatives. The proposed alternative laid before them should always be well specified and guaranteed for some reasonable period into the future. It should be remembered, furthermore, that how an actual alternative works out in one case will probably influence importantly public receptiveness to a proposed alternative in a later case.

Let us be somewhat more explicit about likely alternatives. Some remote, rail-dependent areas are now served by exceedingly slow, expensive, overnight sleeper trains. They might well be better served, at double the speed, and at much less cost, by some such vehicle as the double-decker diesel electric car proposed in a recent Science Council report.[1]

In other cases, where suitable roads were available or could be made so, a road bus would be the alternative vehicle of choice. But not just any road bus, on any schedule. Tenders should be called by VIA whereby the successful operator would engage, by contract, to provide over a renewable period of perhaps five years, a certain VIA-stipulated standard of service on a certain VIA-stipulated schedule, with positive, convenient connections (including through ticketing and reservations) with on-going VIA rail services.

There would be two main reasons for this elaborateness. First, if simply offered the alternative of whatever bus service the market might provide, the affected public might read that as, "little or no service". They might well be right. Especially in a sparsely populated northern area, the local bus operator, surveying his whole territory, might perceive a number of more attractive investment possibilities than providing a replacement service for a lightly-used train. His own private economics might be sound enough. But in the larger political-economy picture, the result might well be continued taxpayer support of a very deficitary train. A bus service attracted by moderately sweetened contract terms would be a more economic result overall.

A second reason for procedural elaborateness would be the desirability of exerting a demonstration effect via these arrangements. Among the points they could demonstrate would be that truly convenient bus/rail connections were indeed possible, that VIA and bus companies could work well together to mutual advantage, and that train-connected bus service (including terminals) could be provided to standards of comfort and cleanliness capable of satisfying the most exigent middle-class traveller. In the long perspective of Canadian passenger transport, such a demonstration might materially assist progress towards a more convenient, connected and economically rational network of multimodal common carriage.

At best, improving the economics of VIA third-category routes will not be politically easy. The most superficially "hard-nosed" approach to it is not likely in fact to be the realistic path to best results. Among matters needing attention before change is instituted is the investigation of alternative employment, elsewhere on the VIA system or otherwise, for employees displaced by service-change (a further brief reference to this occurs in the next chapter). Also, it should not be overlook that the provision, meanwhile, of a better-quality transcontinental service will make it more difficult for die-hard opponents of third-category service changes to argue that, by such changes , VIA is simply manifesting a general disregard for the interests of regions other than southern Ontario and Québec.

In the light of these introductory statements, VIA's goal in respect of third-category routes should be spelled out as follows:

Guiding Principle A(iii)

> To provide over the rest of the VIA network, including "remote-area" portions (a term here taken to include smaller population centres along the more isolated sections of transcontinental routes), a basic passenger transportation service, either by rail, or, where appropriate, by other common-carrier transport modes furnishing a service at least as good as, and if possible better than, the service now existing. The words, "...at least as good as, and if possible better than," refer to the service characteristics of speed, reliability, frequency, comfort, and connections with other VIA services;

Recommendations Bearing on Third-Category Services

(4) Further to the attainment of VIA's goals, and following appropriate engineering and other studies, including analyses of Amtrak criteria in similar geographical and operating environments in the United States, regulations under the VIA statute should set forth certain practical, threshold or minimum criteria for the operation of VIA trains. Among other things, these criteria should stipulate for all trains minimum numbers of passenger-miles per train-mile, and minimum ratios of train-revenue to avoidable cost. A phase-in period of two years might be provided before these criteria became fully applicable, and capable of setting in motion the procedures to be recommended below for cases where the criteria were not being met.

(12) All "third-category" VIA services (and perhaps even some corridor links), should be reviewed in the light of the criteria recommended in (4) above. Where trains meet the criteria, they should of course be continued. If there are indications that their revenue-cost ratios could be substantially improved by re-equipment, a plan for re-equipment should be prepared and submitted to the Minister of Transport with a request for capital funding. A similar procedure should be followed where a train is not now meeting the criteria, but seems likely to be able to do so if it is re-equipped.

Where, in VIA's judgement, there appears little if any prospect of a train being able to meet the criteria, VIA, while continuing the service, should prepare, within a maximum period of one year, a "Plan of Alternative Service", fulfilling the requirements of Guiding Principle A(iii) above. Without restriction, such plans, power to implement which would be provided in VIA's statute, might include one or more of such alternatives as the following:

(i) Proposed substitution of a very different type of rail service, such as the modern, bilevel rail bus referred to in a later recommendation;

(ii) Proposed conclusion of a 5-year renewable contract arrangement with a suitable bus company to provide over roads paralleling the route in question a service according to standards set forth in the body of the contract at the instance of VIA, and fully in accord with Guiding Principle A(iii);

(iii) A proposed agreement with a provincial government whereby necessary road links would be constructed to make possible a road bus alternative.

Having drawn up a "Plan of Alternative Service", VIA would immediately submit this plan to CTC, which would hold public hearings on the plan in the affected region. Following the hearings, CTC would submit a recommendation to the Minister of Transport and Parliament. The recommendation would approve the plan in original or modified form, would reject the alternative in favour of continuing the existing type of rail service, or would opt for abandonment of the rail service, without the specific substitution by VIA of any alternative service, on the grounds that sufficient alternative service already existed.

Upon receipt of the CTC recommendation, the Minister would opt for one of these three broad courses of action, not necessarily the one recommended by CTC. He might also, while accepting the general thrust of the CTC recommendation, modify it for submission to Parliament.

Where Parliament chose the course of continuing the existing type of rail service, the Minister, under the Act, would be required to provide to VIA a special subsidy sufficient to bring the revenue/cost position of the service up to the general threshold level for all trains. In all VIA financial statements and other relevant reports, information regarding these specially subsidized trains would always be shown separately.

(13) The VIA statute should also contain a provision whereby a province, if it wished a VIA rail service extended that would not otherwise be extended because of projected failure to meet the threshold passenger-load and revenue/cost criteria, or if it wished to have maintained a VIA rail service that would otherwise be abandoned or replaced for the same reason, might enter into an agreement with VIA to make up the difference and so ensure the service.

(14) Following up a concept proposed in a study for the Science Council of Canada, VIA should cause to be developed, with particular regard to remote-area services, a prototype for a modern, bilevel, "pay-as-you-enter" railbus. This rail-borne vehicle should be comfortable, offering, in addition to standard coach accommodation, "day-niter" seating. It should be capable of speeds up to 75 mph and have considerable

accelerative properties. It should be capable of towing a light baggage car roomy enough for canoes, snowmobiles and other typical northern and remote-area impedimenta. It should also be capable of being operated "in multiple" with others of its kind. It should be equipped with two-way radio, in part for the purpose of being able to order in advance standard-menu box-lunches or other meals for passengers, to be delivered at designated meal stopping-points along the line.

Chapter 7

VIA STATUTE, COSTING, ADMINISTRATION AND OTHER MATTER

As a number of comments in earlier chapters will already have suggested, VIA Rail Canada -- partly, no doubt, because it was created in some haste -- is remarkably unprovided with a number of the more important guidelines and powers hitherto regarded as essential for the successful operation of crown corporations. In particular, VIA,

(1) has no incorporating statute of its own;

(2) has no clear statement from Parliament of what its goals and objectives ought to be;

(3) has no clear statement of operational criteria by which its success in progressing towards goals and objectives might be assessed;

(4) cannot properly control the punctuality of the train service which is its main product;

(5) cannot properly control the maintenance of its locomotives and rolling stock;

(6) cannot properly itemize, audit, control and predict a large sector of its costs -- those billed to it by CN and CP under CTC costing order R-6313;

(7) as a result of all the above, cannot properly account to Parliament for the disposition of several hundreds of millions of dollars in public funds.

From the standpoints both of efficient operation of a large-scale business enterprise, and of minimal standards of public accountability in a parliamentary democracy, this is plainly an intolerable situation, which ought soon to be corrected. Some of the recommendations of previous chapters have some bearing on its correction; in this chapter we endeavour to complete the process.

The chapter mostly consists, indeed, of recommendations. Most of these are framed in terms reasonably eloquent of the ills which they seek to correct, and so require little if any additional comment.

Perhaps an additional word is in order, however, regarding the recommendation to replace CTC costing order R-6313. The terms of this order, conceived a long time earlier in connection with passenger-train abandonment proceedings, were, at VIA's birth, hurriedly pressed into service for the quite different purpose of governing costing relationships between VIA and its host railways in the on-going operation of passenger trains. In this role, the order is said to have some faithful supporters, but none appeared among the interviewees for this study. Few aspects of VIA's situation were so consistently denounced, in such detail, with such full supporting argument, as this one.

The author agrees that R-6313 must go. Early in its application to VIA, it might have been modified into a more acceptable arrangement. But now that it has set for several years into a sort of railway-accounting cause célèbre, the only sensible thing to do is to get rid of it and start afresh.

The main issue is not the "fairness" or "unfairness" of R-6313. That could probably be debated endlessly, to no good result. The important issue is rather how effectively it motivates the chief participants in the supplying of rail passenger service to Canadians -- VIA, CN and CP -- to do that job well, and to report back informatively to Parliament on how they are doing it. On those scores, it fails. Looking to the only other major country in the world with a separate rail passenger corporation, hosted by freight railways -- the United States -- we perceive a different approach to the same problem. It is much simpler than ours; it is much more rough and ready; and it works. It is pro-productivity and pro-performance, and the parties are living with it without major complaint. The lesson should be plain.

For convenience, we recapitulate the proposed guiding principles for VIA, then proceed immediately to the remaining recommendations.

Guiding Principle (A) That the goals of VIA should be as follows:

(i) To provide, in the Windsor/Québec corridor, a progressively higher-speed and otherwise more useful passenger service to the public, on a basis of a rising ratio of operating revenue to operating cost, with a view to ultimate profitability;

(ii) To provide transcontinental services east and west of Montréal that will serve the Canadian public well, that will provide unequalled opportunity to appreciate the extent and diversity of Canada, that will both directly and indirectly stimulate the Canadian tourist industry, that will provide convenient service between important centres of population along the routes, and that will be for all Canadians a source of national pride and of enhanced consciousness of national unity, Canadian history, and the heritage of rail transport in Canada.

(iii) To provide over the rest of the VIA network, including "remote-area" portions (a term here taken to include smaller population centres along the more isolated sections of transcontinental routes), a basic passenger transportation service, either by rail, or, where appropriate, by other common-carrier transport modes furnishing a service at least as good as, and if possible better than, the service now existing. The words, "...at least as good as, and if possible better than," refer to the service characteristics of speed, reliability, frequency, comfort, and connections with other VIA services;

(iv) To achieve, partly through the provision by the federal government of capital financing to replace obsolete equipment and facilities by new and more cost-effective equipment and facilities, and partly by other important means, a progressively reducing tendency in the federal government subsidy necessary to meet VIA operating deficits.

Remaining Recommendations

(1) VIA should be properly incorporated, under a statute of its own, as a proprietary crown corporation reporting to Parliament through the Minister of Transport. Among other things, the statute should set forth VIA's principal goals (see above) and grant it sufficient powers with which to attain those goals. VIA should have its own, highly competent board of directors, structured to provide a suitable blend of accountability to Parliament and public, and disinterested but well-informed overseeing of the efficiency of its railroading and general business performance.

(2) VIA should be specifically incorporated as a railway company. Even if it does not, as yet, own any of its own trackage, a railway company is what it essentially is, and ought to be perceived as being. It is a railway company that the Canadian public should expect to be professionally managed, by professional railroaders, in the same manner that they expect in the cases of such enterprises as CN, CP, British Columbia Railway, Ontario Northland Railway, etc.

(3) Further to the above, as both a railway company and a crown corporation, VIA must, of course, obey necessary safety and other railway regulations, and be fully accountable to Parliament, through the Minister of Transport, for performance in relation to the goals set for it by Parliament. But powers and responsibilities must be in reasonable balance, and VIA management must have the same decision-room as do other Canadian railway managements to do a competent, professional job of railroading. Nothing would be more inimical to VIA's success than attempts to make most of its major policy decisions, and to direct its detailed, on-going operations, from ministerial or regulatory offices in Ottawa. The roles of MOT and CTC with respect to VIA should not, in general, be more extensive or directorial than they are in respect to CN and CP.

(4) Further to the attainment of VIA's goals, and following appropriate engineering and other studies,

including analyses of Amtrak criteria in similar geographical and operating environments in the United States, regulations under the VIA statute should set forth certain practical, threshold or minimum criteria for the operation of VIA trains. Among other things, these criteria should stipulate for all trains minimum numbers of passenger-miles per train-mile, and minimum ratios of train-revenue to avoidable cost. A phrase-in period of two years might be provided before these criteria became fully applicable, and capable of setting in motion the procedures to be recommended below for cases where the criteria were not being met.

(5) Both in the VIA statute and in the Railway Act, it should be clearly stipulated that VIA passenger trains are first-class trains, with operating priority over other classes of trains. It is much to be hoped that this will be mainly a back-stop provision, rarely if ever needing to be actively invoked, and that incentives to be recommended below will in practice do virtually all the work of ensuring proper, on-time handling of VIA trains. But there should be a back-stop.

(6) The present CTC costing order R-6313, governing costing relations between VIA and its host railways, should be replaced as soon as possible by a better system. Without this vital change, VIA cannot possibly succeed, however, much progress it makes on other fronts.

Mainly, the new system should provide, for the first time, a comprehensible accounting to the Minister of Transport and to Parliament of VIA costs, and clearer and more effective incentives to the host railways to handle VIA trains properly. It should also eliminate the intolerable and wholly unnecessary uncertainty and time-delay presently afflicting both VIA's and Parliament's knowledge of VIA costs.

Under the new system, VIA payments to host railways should be made up of the following three categories:

> (i) Clearly avoidable costs of passenger-train operation, capable of being monitored and audited, and in fact regularly monitored and audited by VIA representatives, acting under an appropriate provision of the VIA statute. For a cost to be included in this category, it must be clearly established as one which would literally disappear if the train were cancelled. Most costs in this

category would be expected to disappear within a year or less -- usually much less -- of the cancellation. Avoidable costs should be invoiced promptly and paid promptly as incurred. In the case of capital and other longer-term avoidable costs of passenger trains, such as the installation of additional grade-crossing protection made necessary by the higher speed of passenger trains, these, too, should be invoiced and paid as incurred -- not long before, or long after, the event. Furthermore, where the incurrence is foreseeable, the incurrence should be agreed in advance between VIA and the host railways;

(ii) A fixed, arbitrary amount per passenger train-mile to provide some contribution by the passenger service to the fixed, joint and common costs of the operation of all trains. Since allocation of these costs is inherently arbitrary, it should be arbitrated once and for all by the CTC. The amount having been thus decided, it should then remain constant, except perhaps for an annual "cost-of-living" adjustment in relation to some suitable, pre-stipulated Statistics Canada index. Any subsequent argument by the host railways to CTC that they are being underpaid for passenger service should be entertained only in the contexts of categories (i) above, or (iii) below.

(iii) A performance-incentive payment to the host railway where its schedule-adherence and other handling of a VIA train meets pre-stipulated standards. These standards should be determined by CTC after appropriate consultation with VIA and its host railways, and with considerable attention being paid to comparable standards in the United States. Performance in relation to standards would be monitored in the first instance by VIA personnel, reported regularly to CTC and MOT, and reported to Parliament as requested.

(7) Scheduling of VIA passenger trains should normally be negotiated between VIA and its host railways. Only in cases of serious, unresolved dispute should the matter be referred to CTC for arbitration. In any such arbitration, there would be a rebuttable presumption that VIA trains should be scheduled to run

at least as fast as comparable Amtrak trains in comparable territory.

(8) It is of great importance that practical reliance not be placed on the invocation of "public duty" -- still less, "historic public duty" -- as a means of inducing CN and CP to handle VIA trains on time, and otherwise satisfactorily. The reason for this is not that CN and CP managements (always, in the end, by the way, rated by interviewees for this study as highly competent in the handling of the traffics that make up the vast bulk of their business) appear to be more lacking in a sense of public duty than are other people. Rather, and indeed to the contrary, the reason is that, particularly since the National Transportation Act of 1967, and successive capital restructurings of CN, the two major railways have been charged, more clearly than ever before, with another public duty: that of running efficient and commercially successful freight railways. The "public-duty" approach to passenger-train handling was tried before and during the post-1967 period of the 80% passenger subsidy, and it failed. It failed primarily because it came into too much conflict with the railways' different public duty in respect of much the larger part of their business. To fit VIA trains into the new, post-1967 world of CN and CP operations, it is vital that these railways should, when they do their share of the passenger job properly, end up modestly in pocket thereby. The performance standards should be tough, but when they are met, there should be no "chiselling" on the reward. Judging by U.S. experience, once CN and CP become used to this régime, they will find it better than what went before: more consonant with the general pattern of their operations, and more conducive to a briskly businesslike rather than an intricately politico-bureaucratic relationship with VIA.

(15) The VIA statute should also contain provisions whereby, over a period of time, all of the persons doing work specific to the operation, maintenance, etc., of its passenger trains, including notably railway operating crews, would become direct employees of VIA. Where such persons were organized in unions, they would negotiate collective agreements with VIA. Fairly complex transfer provisions would be necessary in both respects. To induce operating crews to come over to VIA, it would probably be necessary to offer them the security of fall-back seniority rights with the other railways from which they came. It might be expected that the transition to direct employment by VIA of its own operating and other personnel, and to

collective bargaining with them, would occur first in the Windsor/Québec corridor, then spread later to other parts of the system.

(16) Collective bargaining is an exchange process with a life of its own, and can rarely be forced. A party to collective bargaining should, however, enter the process with a clear sense of priorities. It is suggested that among VIA's leading priorities -- things for which in the end, it would be worth offering substantial exchange value -- should be:

> (i) Clear, formal recognition in all agreements of the distinctiveness of passenger service as compared with freight service;
>
> (ii) Change from a mileage to an hourly basis of payment for passenger operating crews;
>
> (iii) Elimination of "arbitraries" -- e.g., working rules requiring that a switching crew must do what a road crew could readily do;
>
> (iv) More flexibility in the use of on-board staff -- e.g., an ability to have dining-car staff underemployed at certain hours perform non-dining-car functions aboard the train;
>
> (v) Establishment of system-wide seniority rights, thus facilitating the finding of suitable employment for staff no longer required in one area because of service changes, thus in turn reducing employee resistance to service changes.

It must be stressed that the greatest importance of the above is in the long run. As, notably in the corridor, train speeds and, as it may be hoped, ridership increase, the value of these provisions will grow greatly. Their attainment should not, therefore, be jeopardized by unwise attempts to obtain them as major vehicles of cost-cutting in the short run. If they appear on the bargaining table as major threats to the employment-security and/or monthly dollar earnings of large groups of present rail employees, both their initial institution and their later extension to other parts of the system will, inevitably, be fought bitterly and perhaps successfully. This is really another way of putting the proposition that these things are so important and valuable for VIA in the longer run, that it is worth paying, if necessary, a considerable dollar price for them now, in such terms as relatively high hourly rates for passenger operating crews -- high enough, at all events, to maintain present levels of monthly earnings.

(17) VIA's statute should provide for its progressive acquisition of ownership and control over all major repair and maintenance facilities required for its operations.

(18) Similarly, the statute should provide for progressive acquisition, subject to certain exceptions to be noted, of ownership and control over all buildings along the VIA network used primarily as rail passenger stations. Certain variants should also be provided for, however. There should be provision for joint ownership of some stations with any or all of municipalities, provincial or municipal transit authorities, intercity bus companies, etc. In certain other cases, where the station is also used for other important purposes, or where it is caught up in a major urban redevelopment proposal, provision should be made for VIA to own outright or lease for 99 years the part of the building relevant to its purposes. Since stations are an important part of the "total passenger experience", it is essential for VIA's image and marketing success that it be able to make its stations what they should be.

(19) In the interests of improved intermodal networking, VIA should always be prepared to "go an extra mile" to induce transit authorities, intercity bus companies, airline limousine companies, etc., to share station facilities with it. Since, for reasons outlined elsewhere in this report, intercity bus companies in particular tend to have some very rationally self-interested reasons for hesitating to join in such arrangements, federal, provincial and municipal governments should consider whether some marginal sweetening of the pot for intermodal arrangements might be called for in the public interest.

(20) VIA should be accorded a freedom to price its services consistent with its goals and with its operational criteria in respect of revenue and costs. It should be as free to price to maximize its revenue as are the other Canadian railways in respect of most of their freight traffic other than grain, and it should not be subject to arbitrary rules, such as inter-regional non-discrimination rules, preventing it from offering off-peak and other incentive fares in particular regions.

Since, over most of its network, VIA faces strong competition from other transport modes, there would seem no reason for CTC to set fare maxima for it, except possibly in a few cases where there was no alternative service. But complaints are periodically received from the bus industry that VIA is pricing too low, in "predatory" fashion, with intent to eliminate bus competition, then move its fares up again.

This poses a double problem. It has sometimes been suggested, for other sectors of the Canadian economy, that a rough but practicable criterion of predation might be pricing below long-run average cost over a considerable period. But to apply that rule to a currently dificitary operation such as VIA would be to wipe out all or most of the system that Parliament had voted to maintain.

Could the rule be, instead, that VIA must never price below competing bus fares? But on many bus routes, provincial regulation does not allow more than one bus carrier, and careful studies indicate that this produces in many instances bus fares well above bus average cost.[1] Thus a rail fare below the bus fare would not necessarily be predatory in the usual sense of that word.

Perhaps the best solution would be for CTC to entertain and rule upon complaints of predatory pricing by VIA only where there was evidence that rail fares were being set below the lower of the long-run average costs of VIA and of the relevant bus operators.

Chapter 8

CONCLUSION

If there is one thing that ought to be clearly apparent from the foregoing chapters, it is that there are few simple answers to the problems of VIA Rail Canada. One reason for this is that until Parliament more clearly and formally defines some major objectives for VIA, we can have only a hazy idea of what some of the problems are, and how they should be classified and priority-ranked. In this study, we have dealt with the situation by proposing and assuming some objectives -- then, in effect, defining problems in relation to them.

For some people, the obvious, overriding problem of VIA is that it runs a large operating deficit: approximately one half billion dollars in 1983. That deficit, together with the subsidy which it necessitates, must certainly figure as a major problem in relation to almost any conceivable set of goals and objectives.

Is it a problem amenable to rapid solution -- to the tune, say, of several hundreds of millions of dollars in reduced charges to the taxpayers, within two or three years?

The only way of achieving that much deficit-reduction, that fast, would be to eliminate all or a very large part of the present VIA service network. That the service-cut would have to be of that order of magnitude to achieve the desired dollar result is one of the important lessons to be learned from the outcome of the VIA service-reductions of 1981-82.

In principle, such a cut is an available option for the federal government. Readers must judge for themselves whether or not it is, (a), a desirable option, and, (b), a politically available option.

In this study, we have proceeded on the assumption that it is not a politically available option, and we have used in its place something judged to be more realistic.

But it is a fair question to ask how the resulting scenario would be consistent with reducing VIA's deficit. That is, in fact, one object of the scenario. The thought of the need to control, then reduce, those massive calls upon the public treasury, has never been far away.

A precondition for this approach to VIA deficit-reduction is a certain patience, and an appreciation that the reduction process will consist, not of two or three dramatic coups, but of constant, indefatigable attention to many matters, some of which, individually, might seem to be small details. Much of cost-effective railroading happens to be like that.

The main ways in which the scenario of this study would produce -- within, say, five years -- first, some real and evident control over VIA's deficit, then some progressive reduction, would be the following:

(1) VIA would be given some more definite goals and objectives in relation to which it was expected to be cost-effective (without goals and objectives, the concept of cost-effectiveness has no meaning);

(2) VIA would be given more knowledge of, and therefore more control over, its operating costs (it is impossible for VIA to control effectively costs of which it is more ignorant than it is tolerable for well-run business enterprises to be);

(3) VIA would be given more control over the quality of the services delivered to the public in its name, thus enabling it better to adjust those services to public demand and so improve revenue;

(4) A series of incremental investments and other improvements would be undertaken in the Québec/Windsor corridor with a view to increasing passenger-attractiveness and revenue, and decreasing costs;

(5) The existing transcontinental services would be partially re-equipped with new and more cost-effective passenger cars and locomotives, thereby reducing their operating losses considerably;

(6) VIA would be given much more latitude than it now has to provide "third-category" services at least as good as what now exist in a more cost-effective fashion.

If it were asked which of the above would be most likely to produce a significant cost-saving fairly early in the process -- a largeish number to which one could point with some certitude -- the answer, perhaps surprisingly to some, would be number (5). That is because the item deals with new hardware that is a known quantity -- hardware that has been actually operating, under Canadian-style conditions, for some time. Thus, *if* government opts for a continuation of present transcontinental service, then working out how to provide that service better, at a sharp reduction in seat-mile cost, becomes one of VIA's less difficult and uncertainty-ridden problems.

But that example also underlines yet again the closeness of the relationship between goals and efficiency. "If a continued transcontinental service is desired, then..." This type of "if...then" relationship extends and applies throughout the piece. And many of the goals here cannot, in the final analysis, be supplied by experts (however much experts may be able to illuminate the nature of available choices). The

Canadian public, so much involved with VIA financially and in other ways, must be heard from concerning these goals.

If we can assume that arrangements can be made for the public to convey more clearly its desires in the matter of rail passenger service, then there is one more thing worth saying. That is that the public's desires should then be met ungrudgingly and in a spirit of complete professionalism. More than advanced hardware, this is the real secret of the high regard in which rail passenger service in countries such as France and Japan is held, both by the French and Japanese publics, and by visiting Canadian and other tourists. All, or the great bulk, of intercity passenger trains in those systems, from "bullet trains" down to relatively obscure secondary and tertiary runs, are operated as if they mattered -- as if, notably, their schedule-adherence mattered. Here is an international technological transfer into Canada which could be had at very low cash cost. It may well be pointed out that the French, Japanese and other overseas systems would naturally tend to emphasize passenger train performance more because they are, in the first place, far more passenger-oriented systems than are the total rail systems of Canada and the United States. But to this it may be rejoined that passengers are not just the bulk of VIA's business; they are its whole business. And in the only other major, extant case of a separate rail passenger corporation -- Amtrak -- instilling in all personnel the view that their function is, above all, to do a first-class, professional job of railroading, is clearly a top-priority objective of the current management.

FOOTNOTES

Chapter 1

1. See, e.g., Mulvey, F.P., "AMTRAK: A Cost-Effectiveness Analysis", Transportation Research, V.13A, pp. 329-344, 1979.

2. See, e.g., Canadian Institute of Guided Ground Transport, Alternatives to Air: A Feasible Concept for the Toronto-Ottawa-Montreal Corridor (CIGGT Report No. 80-11), Kingston: Queen's University, 1980.

3. Khan, Ata M., VIA Rail Canada: An Analysis of VIA's Potential in Fulfilling Rail Passenger Policy Objectives (Working Paper No. 5 for Science Council of Canada ("Opportunities in Canadian Transportation") and Ontario Task Force on Provincial Rail Policy), Ottawa: Science Council of Canada, 1980, p. 26, footnote.

4. See chapter 5 below.

5. VIA Rail Canada (IBI Group), Comparison of Public Funding to Passenger Transportation Modes (confidential draft of internal document), Montreal: VIA Rail Canada, 1983, p. 43 and Exhibit 17.

6. Lipsey, R.G., Purvis, D.D., Sparks, G.R., and Steiner, P.O., Economics (4th ed.), New York: Harper and Row, p. 32.

Chapter 2

1. Confidential advice from senior public servant.

2. Progressive Conservative Party of Canada, The Last Straw -- Report of the Task Force on Rail Passenger Service, Ottawa: 1981.

3. Ontario Task Force on Provincial Rail Policy, The Future Role of Rail -- Final Report, Toronto: Government of Ontario, 1981, p. 32.

4. This argument can be said to cut two ways. In a CBC television program in January 1984, former Transport Minister Hon. J.W. Pickersgill utilized it in support of his view that all VIA passenger service except for essential remote-area service ought to be eliminated as uneconomic and unnecessary.

5. VIA Rail Canada, Comparison of Public Funding to Passenger Transportation Modes, op. cit., p. 43.

6. Ontario Task Force on Provincial Rail Policy, op. cit., p. 31.

7. Lipsey, Purvis, Sparks, Steiner, Economics, op. cit., pp. 456-459.

8. Data Resources of Canada and Canadian Institute of Guided Ground Transport, National Economic Impact of Railway Electrification, (Study No. TP 4461E), Ottawa: Transport Canada, June 1983.

9. Mr. Hill once reputedly observed, "passenger trains are about as useful to a railroad as teats on a bull." Nevertheless, passenger trains on his Great Northern were far indeed from the worst in the United States, and his own sobriquet lives on in today's "Empire Builder" passenger train.

10. While the lakeshore line is the largest single operation of "GO Transit", available data does not permit even an arbitrary allocation of operating deficit and subsidy to it. In 1982-83, the Province of Ontario operating subsidy to all operations of GO Transit (Toronto Area Transit Operating Authority) was $58,246 thousand, including amortization of capital contributions of $12,379 thousand. See Ontario, Public Accounts 1982-83, vol. 2 (financial statements of crown corporations, boards and commissions), Toronto: Ministry of Treasury and Economics, 1983, p. 140.

11. Ontario Rail Task Force, op. cit., p. 32.

12. Pitre, H., "Intercity Bus as a Mode/Industry", incl. in Science Council conference document, Opportunities in Canadian Transportation, vol. 3, Ottawa: Science Council of Canada, 1979, p. 35.

13. Science Council of Canada, Transportation in a Resource-Conscious Future, (Council report no. 34), Ottawa: Science Council of Canada, 1982, pp. 77-86.

14. See Reschenthaler, G.B., Performance Under Regulation: The Canadian Intercity Bus Industry (Research monograph no. 10), Ottawa: Consumer and Corporate Affairs Canada, 1981.

15. Okun, Arthur M., Equality and Efficiency -- The Big Tradeoff, Washington: The Brookings Institution, 1975, p. 34.

Chapter 3

1. Phillips, Don, "An Operating Man's Railroad", *Trains* magazine, Milwaukee: May 1983, pp. 12, 13.

2. See Canadian Transport Commission, *A Comparison of Amtrak and VIA Costing Approaches* (Staff Report -- Railway Transport Committee), Ottawa: CTC, April 29, 1983.

3. Daigle, R., *Personal Travel and Transportation Expenditures in Canada*, (Report No. 10-78-17, Economic and Social Research Directorate, Canadian Transport Commission, Research Branch), Ottawa: CTC, August 1978.

4. Lukasiewicz, J., "Passenger Rail Policy: A $2 Billion Fiasco", *Canadian Public Policy*, VIII:3, Summer 1982, pp. 376, 377.

Chapter 4

1. Khan, Ata M., *VIA Rail Canada: An Analysis of VIA's Potential in Fulfilling Rail Passenger Policy Objectives* (working paper no. 5 prepared for Science Council Committee on Opportunities in Canadian Transportation, and for Ontario Task Force on Provincial Rail Policy), Ottawa: Science Council of Canada, 1980.

2. *ibid*., p. 76.

3. *ibid*., p. 51.

4. Canadian Institute of Guided Ground Transport, *Alternatives to Air: A Feasible Concept for the Toronto-Ottawa-Montreal Corridor*, (CIGGT Report No. 80-11), Kingston: Queen's University, 1980.

5. *ibid*., vol. 4, p. 9.

6. Information from senior public servant.

7. CIGGT, *op*. *cit*., p. 22.

Chapter 5

1. Transport 2000 Canada, *An Analysis of the Economic Impact of Bi-Level Equipment on VIA Transcontinental Services*, Ottawa: Transport 2000, 1983, p. 5.

2. *ibid.*, p. 5.

3. *ibid.*, p. 5.

Chapter 6

1. Science Council of Canada, *Transportation in a Resource-Conscious Future*, (Council Report No. 34), Ottawa: Science Council of Canada, 1982, pp. 45-52.

Chapter 7

1. Reschenthaler, G.B., *Performance Under Regulation: The Canadian Intercity Bus Industry*, *op. cit.*, pp. 99-102.

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APPENDICES

Appendix I

VIA RAIL CANADA
FINANCIAL AND OPERATING STATISTICS
1979 - 1983
(000's)

Year	Operating Cost	Passenger Revenue	Operating Loss	Other Income*	Loss Before Government Payments	Government Payments	Capital Expenditures	Revenue Passenger-Miles
1979	349 416	106 644	242 772	605	242 167	242 978	53 659	1 597 981
1980	459 163	140 081	319 082	420	318 662	320 085	90 238	1 690 214
1981	591 109	164 786	426 323	3 144	423 179	422 336	109 447	1 671 027
1982	603 042	161 994	441 048	16 966	424 082	431 620	114 115	1 347 002
1983	642 526	173 325	469 201	21 188	448 013	451 200	134 700	1 309 338

* Mainly comprises interest from cash management.

Source: VIA and VIA Annual Reports

Appendix II (a)

SOME PARTICULAR AREAS OF INTEREST IN AMTRAK

(Set of questions sent to Amtrak in advance of interviews)

I. Where is Amtrak going? What can be said at this point about its present and intended future roles in the overall picture of U.S. intercity passenger transport?

II. How does AMTRAK define the following costs:

- short-term avoidable
- fully allocated operating costs
- capital costs
- "total AMTRAK costs"?

III. The Northeast Corridor, (a) Washington-New York, and (b) New York-Boston. What are the present-and future-estimated:

- passenger volumes
- regular fares (and strategies for setting same)
- operating ratios
- train frequencies
- average and maximum train speeds
- train passenger capacities
- actual % loadings
- break-even loadings?

IV. Chicago-Detroit and San Francisco Zephyr -- similar information to that requested for Northeast Corridor, where applicable.

V. Labour agreements in Northeast Corridor. What has replaced the 100-mile day as basis for payments to operating trades? What had to be offered in return -- i.e., what was basis of deal? What chance is there of similar agreements elsewhere in system?

VI. What is the general character of trackage-rights agreements with other railroads?

VII. What is the general character of 403b agreements with states?

VIII. What has been the experience in trying to develop better modal interfaces and connections with buses and aircraft?

IX. Has AMTRAK researched the likely economics of complete, _de novo_ installations along the lines of Japanese bullet trains and French _Trains à Grande Vitesse_? If yes, with what conclusions?

X. What do research and experience suggest concerning the optimal characteristics of future rolling stock in corridor and other AMTRAK services?

Appendix II (b)

AMTRAK: SELECTED NO. FY83 AND NO. FY85
ROUTE PERFORMANCE MEASURES

	Forecast FY83	Forecast FY85
NEC Conventionals		
Revenue/Long-term Cost Ratio	105%	115%
Load Factor	46%	53%
Projected Break-even Load Factor*	44%	46%
Metroliners		
Revenue/Long-term Cost Ratio	111%	122%
Load Factor	45%	55%
Projected Break-even Load Factor*	41%	46%
Chicago-Detroit-Toledo		
Revenue/Long-term Cost Ratio	57%	53%
Load Factor	37%	36%
Projected Break-even Load Factor*	67%	69%

	Forecast FY83	Forecast FY85
(Chicago) - Ogden - Oakland		
Revenue/Long-term Cost Ratio	67%	71%
Load Factor	54%	59%
Projected Break-even Load Factor*	85%	87%

Note: No. Throughout these tables, "FY" means "fiscal year".

* Projected break-even load factor is based on each route's long-term avoidable loss.

Source: Financial Planning, Amtrak
July 8, 1983.

Appendix II (c)

AMTRAK: SELECTED DATA REGARDING THREE ROUTES

A. Northeast Corridor

- FY82 Volumes: 10 506 000
- FY85 Forecast: 11 173 000
- In FY82: 10.6% of Northeast Corridor riders were entirely between New York-Boston.
  4.7% of Northeast Corridor riders rode through New York.
  84.7% of Northeast Corridor riders rode entirely between New York-Washington.
- Fares: Metroliner Service - Premium all-reserved service.
  Regular One way - Applies on non-reserved trains.
  AW30 - Round-trip discount on non-reserved trains.
  Not good Friday and Sunday 1-7 p.m.
  Stimulates off-peak ridership and shifts peaks on heavy discretionary ridership days to weaker trains.

Sample Fares

New York to:	Philadelphia	Washington	Providence
Metroliner	$28.00	$46.00	$40.50
Regular One-Way	$18.50	$37.00	$31.50
AW30	$28.00	$56.00	$45.00

- Train Frequencies: 25 trains New York-Washington (7 trains operate Boston-Washington). 9 trains New York-Boston (7 trains operate Boston-Washington).

- Train Speeds: Maximum New York-Washington - 120 mph.
Maximum New York-Boston - 100 mph.

  Average Speed: New York-Washington - 80 mph.
New York-Boston - 59 mph.

  (Speeds are for Metroliner Service; regular trains are slower.)

- Train Capacities: Metroliner Service - approximately 241 seats.
Conventional Service - approximately 435 seats.

  (Note: Consists vary widely by day of week and train.)

B. Chicago-Detroit-Toledo

(Includes all local riders Chicago-Battle Creek carried on Chicago-Toronto service.)

- FY82 Volumes: 427 000 passengers.
- FY85 Forecast: 405 000 passengers.
- Fares: Regular One-Way
  AW30 - Round-trip discount; not good Friday and Sunday 1-7 p.m. Stimulates off-peak ridership and shifts peaks on heavy discretionary ridership days to weaker trains.

Sample Fares

Chicago to:	Kalamazoo	Detroit
Regular One-Way	$23.00	$40.00
AW30	$34.50	$60.00

- Train Frequencies: Three trains Chicago-Detroit.
  One train Chicago-Detroit-Toledo.
  One train Chicago-Battle Creek-(Toronto).
- Train Speeds: Maximum - 79 mph.
  Average Chicago-Detroit - 51 mph.
- Train Capacities: Average train - 305 seats.

C. Chicago-San Francisco (Does not include through riders from Pioneer or Desert Wind.)

- FY82 Volumes: 330 000 passengers.
- FY85 Forecast: 408 000 passengers.

- Fares: Regular One-Way.

  AW40 - Inventory controlled round-trip excursion fare. Amount of seats varies with time of year, competitive conditions and strength of demand.

  Economy Sleeper Charge - Accommodation charge for economy sleeper.

  Deluxe Sleeper Charge - Accommodation charge for deluxe sleeper.

Sample Fares

Chicago to:	Omaha	Denver	San Francisco
Regular	$ 82.00	$148.00	$229.00
AW40	$132.00	$208.00	$299.00
Economy Sleeper	$ 46.00	$ 72.00	$117.00
Deluxe Sleeper	$132.00	$208.00	$341.00

- Train Frequency - once daily.

- Train Speed: Maximum - 79 mph.

  Average - 48 mph.

- Train Capacities: Peak - Coach 425 seats.

  Sleeper 176 beds.

  (Includes through cars to Pioneer and Desert Wind.)

  Off-Peak - Coach 271 seats.

  Sleeper 132 beds.

Note:

In addition to these route specific fares, several systemwide discount plans apply on all trains except Metroliner Service trains.

Senior Citizen:	25% round-trip discount.
Handicapped	25% round-trip discount.
Family Plan:	Head of household - full fare.
	Spouse - half fare.
	Children 12-20 - half fare.
	Children 2-11 - quarter fare.
Military Discount:	25% round-trip.

Depending on market conditions, route specific or regional fare programs may be implemented, For example, until August 31 a nationwide fare program for long-distance trips is in effect. The U.S. has been divided into three parts with travel in any one zone $175, two zones $225, and three zones $299.

Source: Finance and Other Division, Amtrak, July 7, 1983.

Appendix II (d)

AMTRAK COST DEFINITIONS

Short-term Avoidable Costs

Also called avoidable costs. Avoidable costs are costs of activities which would be stopped upon discontinuance of a route or train, conversely started up upon the introduction of a new service. Examples of these costs are trains and engine crews, fuel and power, transportation, running maintenance of equipment (80%), railroad-charged maintenance of way, on-board services labor and supplies, line stations (those serving one route only), reservation bureaus (85%), and parts of revenue accounting. A distinction is made between short-term avoidable costs which are felt immediately and long-term avoidable costs which affect Amtrak in the long run (greater than one year).

Fully Allocated Operating Costs

Also called fully allocated costs. These are associated with operating a train or a route and result from allocating virtually all of Amtrak's costs to individual services. Such costs include short-term avoidable costs and infrastructure costs. Except for general and administrative costs, interest expense, costs incurred on behalf of other than intercity trains (e.g., commuter and freight agencies), and prior years' costs, all of Amtrak's costs are allocated to trains based on operating characteristics most closely related with the use of funds. For example, car maintenance costs are allocated on the basis of car miles operated, station costs on the basis of boardings and deboardings, and fuel costs on the basis of the estimated fuel consumption of each diesel locomotive. In FY82, 88% of Amtrak's total expenses were allocated to trains.

Capital Costs

A capital asset is a unit of property costing $2 000 or more and with an economic life exceeding one year. Not capitalized are assets acquired under (operating) leases which do not meet any of the following criteria:

(a) transfer ownership by the end of the lease period;

(b) contain a bargain purchase option;

(c) are for a term of 75% or more of the useful life of the leased property; or

(d) have a present value of the total lease payment equal to 90% or more of the purchase price of the leased property, less investment credit taken by the lessor.

Total Amtrak Costs

"Total Amtrak costs" consist of all costs incurred directly by Amtrak, and those billed to Amtrak by contract railroads, excluding those costs that are billable to other parties or funded through Federal capital grants.

Source: Amtrak, Finance Division, July 1983.

Appendix II (e)

AMTRAK: MAJOR CONTRACT PROVISIONS UNDER SECTION 403(b) REGARDING SERVICE AGREEMENTS WITH STATE GOVERNMENTS

1. One standard contract for all states. Provisions for service and funding are specified in appendices revised annually.

2. Amtrak decisions affecting 403(b) service require 30 days written notice to the states.

3. Amtrak may discontinue service for non-payment with 10 days notice to the state followed by 30 days public posting of notice.

4. States may terminate service with 90 days written notice to Amtrak.

5. Contract disputes are settled by binding arbitration.

6. Annual renewals:

   a. Amtrak estimates costs 90 days prior to current year-end.
   b. State confirms availability of funds 60 days prior to current year-end.
   c. Revised appendices are executed before new year.

7. Manner of reimbursement:

   a. Advance payments equal to 1/12 of annual estimate due on 15th of service month for first 8 months.

   b. Four remaining advance invoices are adjusted after eighth month as dictated by results to date.

   c. Actual itemized invoices are submitted monthly for information purposes only - no cash exchanged.

   d. There is a year-end reconciliation of advance payments and actuals with settlement due 45 days after reconciliation invoice.

8. Charges are based on a revenue less avoidable (solely related) cost basis as detailed in contract appendix. States have the right to audit these costs and revenues for a defined period after close of contract.

CONGRESSIONAL RESOLUTION APPROVING 403(b) COST METHODOLOGY

WHEREAS, the Amtrak Improvement Act of 1981 amended Section 403(b) of the Rail Passenger Service Act to require that following consultation with the appropriate officials of each state that contributes to the operation of 403(b) service, the Board of Directors establish the "short-term avoidable loss and associated capital costs" rather than "solely related costs and associated capital costs" and

WHEREAS, Amtrak management and the Chairman of the Board have consulted with the states, explained the corporation's accepted definition of short-term avoidable and associated capital costs, and therefore, be it

RESOLVED, That the Board of Directors establishes the following basis for determining the short-term avoidable loss and associated capital costs involved with the operation of 403(b) service:

Short-Term Avoidable Loss

Short term avoidable loss forms the basis of the Congressional avoidable loss per passenger mile criterion which is used to measure the performance of all base system and 403(b) trains. Short-term avoidable loss is the difference between revenue and short-term avoidable costs.

- Revenue: Revenue line items include transportation (coach, first class, USARAIL), food and beverage, mail, baggage, and express. A detailed breakout is shown in Attachment I.

  Connecting revenue (revenue generated on non-403(b) Amtrak trains by 403(b) passengers beginning or ending their trip on non-403(b) trains) will not be credited to the states. Through revenue (revenue from the non-403(b) portion of a route but generated by the 403(b) segment) will be credited to the states.

- Short-term Avoidable Costs: A breakout of detailed cost line items is shown in Attachment II.

Associated Capital Cost

The Act also required the states to pay 50 percent of associated capital costs. A detailed breakout of associated capital costs is shown in Attachment III. In general, associated capital costs include:

7. Manner of reimbursement:

   a. Advance payments equal to 1/12 of annual estimate due on 15th of service month for first 8 months.

   b. Four remaining advance invoices are adjusted after eighth month as dictated by results to date.

   c. Actual itemized invoices are submitted monthly for information purposes only - no cash exchanged.

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- Short-term Avoidable Costs: A breakout of detailed cost line items is shown in Attachment II.

Associated Capital Cost

The Act also required the states to pay 50 percent of associated capital costs. A detailed breakout of associated capital costs is shown in Attachment III. In general, associated capital costs include:

- Facilities: Included here is the cost of newly required facilities needed to operate 403(b) services (same as current practice).

- Equipment: All current 403(b) services require Amtrak locomotive and cars to operate. Equipment capital charges are computed by the inclusion of two items, depreciation and interest. Inclusion of depreciation (calculated per ICC guidelines) reflects the fact that operation of this equipment in 403(b) service consumes part of the useful life of the equipment. Interest (calculated on the net book value of the equipment) reflects the opportunity costs to Amtrak (indirectly the Treasury) of continued ownership of the equipment provided. If the equipment were not required to operate 403(b) services, it could be used to generate revenue elsewhere on Amtrak's basic system, or the equipment could be retired and the funds used elsewhere.

Adopted April 20, 1983.

American High Speed Rail Corporation

Summary Market Report

APPENDIX III

Los Angeles - San Diego Project

Introduction This report presents an initial forecast of ridership and revenue for a high speed rail service connecting Los Angeles International Airport (LAX), downtown Los Angeles, intermediate stations and downtown San Diego. In performing the study which provides the basis for this Summary Report, Arthur D. Little, Inc., used existing data on travel, a travel forecasting computer model developed in the mid-1970s by Caltrans for Southern California's two regional councils of governments, studies of high speed rail market share in other locations, and a survey of potential riders. The results presented here should be viewed as subject to change as additional investigations are completed.

The projected ridership and revenues shown in this report are reasonable middle values from among the range of possibilities which depend upon:

- The number of station stops and their locations
- The fare structure used
- The frequency of express and local bullet train service
- The quality and user-cost of station parking and local transportation services
- The degree of traffic congestion on Interstate 5

Of course, intermediate station locations have not been finalized. AHSRC is working to select station locations that meet both business and public interest criteria.

Existing Transportation Patterns Southern Californians are a very mobile population. In the entire Los Angeles - Orange - San Diego region, over 35 million trips are now made each day — most of them local. Whether local or intercity, some 97% of these trips are made by automobile. The remaining 3% of the local trips are made by public forms of transit, with these being heavily concentrated in the Los Angeles downtown area, some urban areas of Orange County, and in San Diego. (In fact, 40% of persons entering downtown Los Angeles in rush hour use the existing network of buses.) The proposed high speed service will compete for only a small portion of the total trips, principally those along the traveled corridor linking LAX, downtown Los Angeles and San Diego.

Traffic along the freeways from LAX to downtown Los Angeles and to San Diego is exceptionally heavy, carrying close to 80,000 vehicles daily at the lowest point (at the Orange and San Diego County line) and close to 200,000 daily at the heaviest points (in Los Angeles and Orange counties). Furthermore, at a number of points, the freeway system is highly congested. I-5 has badly exceeded its design capacity from the junction of I-405, north to Los Angeles. Highway travel time is consequently quite variable, and an automobile trip from downtown Los Angeles to downtown San Diego can now take from 2 hours and 25 minutes to 3 hours, depending on the time of the day. With the forecast population growth in the corridor, congestion will spread to other parts of I-5, leading to a possible doubling of highway travel times by 1995, despite proposed capacity improvements.

Traffic and Capacity on Interstate 5

(1977 except as noted)

Location	*Average Daily Traffic*	*Peak Hour Speed*
At Route 7	194,000*	10 mph
Jct. Route 605	132,000	10 mph
Los Angeles/Orange County Line	126,000	20 mph
Jct. Route 39	133,000	20 mph
Jct. Route 55	154,000	10 mph
Jct. Route 405	85,000	20-30 mph
Avery Parkway	117,000	35+ mph
Orange County/San Diego County Line	80,000	40+ mph

**Note: 1981 data*

Sources: Background Report, Orange County Alternatives Analysis for the Santa Ana Transportation Corridor, Orange County Transportation District, February 1979

Caltrans State Highway Inventory Sheets

Intercity bus service within the corridor is provided primarily by municipal and commercial operators who carry about 2,200 passengers per day between the Los Angeles area and San Diego. In addition, regional transit services are offered by transit agencies in each county.

The only commercial alternative to Los Angeles and San Diego downtown-to-downtown bus service is Amtrak. Its "San Diegan" carried roughly 770 daily passengers from downtown to downtown in 1980, with another 2,500 passengers daily taking the train for shorter trips within the corridor.

Air travel between LAX and San Diego has resulted in roughly 1,400 trips per day over the past several years

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This Summary Report was prepared by American High Speed Rail Corporation using both market forecast data compiled by Arthur D. Little, Inc., and supplemental information prepared by AHSRC. Bullet train ridership and revenues projected in this report are predicated on a specific combination of intermediate passenger stations between Los Angeles and San Diego. Final station locations have yet to be selected, however, and are subject to change. Since ridership and revenue data depend on the station configuration and access, these forecasts may change when final station location decisions are made. In addition, more detailed investigations, which are planned, may modify the forecast results. Therefore, this document is intended only for general public information and is not an investor prospectus or solicitation.

APPENDIX III (cont'd.)

Growth of Southern California The area to be served by the California High Speed Train has experienced extraordinary growth during the last three decades. A substantial influx of new residents combined with growing numbers of native Californians has expanded the population and employment of Southern California faster than almost any other section of the country. In the foreseeable future, the region's rapid growth is expected to continue.

Population Growth 1970-2000
(as a percentage)

	Actual Increase 1970-1980	Projected Growth 1980-1990	1990-2000
Los Angeles County	6.2%	7.9%	7.9%
City of Los Angeles	5.5	—	—
Orange County	35.9%	19.8%	20.0%
City of Anaheim	33.3	—	—
City of Santa Ana	30.8	—	—
San Diego County	37.1%	25.7%	17.8%

Projected Population 1980-2000
(in millions)

County	1980	1990	2000
Los Angeles	7.46	8.05	8.69
Orange County	1.92	2.30	2.65
San Diego	1.79	2.25	2.65

Sources: U.S. Department of Commerce, Bureau of Census, 1980

Southern California Association of Governments, 1982 Growth Forecast Policy Draft, January 1982

San Diego Association of Governments, Comprehensive Plan for the San Diego Region, June 1981

Actual and Projected Employment
(in millions of jobs)

County	1980	1990	2000
Los Angeles	3.98	4.42	4.91
Orange	0.88	1.14	1.48
San Diego	0.68	0.86	1.02

Sources: SCAG Growth Policy (Draft), January 1, 1982

San Diego Association of Governments, Comprehensive Plan for the San Diego Region, June 1981

In large measure, Southern California's prosperity has been the result of its highway system, which has allowed its population to live and work virtually anywhere in the region without serious concern for lengthy travel time or the inconvenience of unsuitable roads. As a result, much development, especially in the last decade, has taken place near major highways such as Interstate 5, which is the crucial connecting link between San Diego, Central Orange County and downtown Los Angeles. I-5 has offered such easy access to the cities that the growth rate along its route has been, and continues to be, high. If the increase in population is sustained, congestion on Interstate 5 will soon be severe enough to deny the very access which has been its attraction.

State, regional and local governments have recognized the magnitude of the problems and are nearing the point where decisions will be made on how to alleviate the worst of the problems. The choices under consideration range from doing nothing, which would stagnate the region's economy and quality of life, to funding a wide variety of highway and transit improvements with taxpayer funds. At the expected level of public spending, significant improvements for intercity travel simply will not be possible. In fact, preventing deterioration of the transportation system will be a major challenge.

Total Travel Projections Quantitative forecasts of travel throughout the Los Angeles-San Diego corridor were obtained from a variety of sources, including: the California Department of Transportation (CALTRANS), the Southern California Association of Governments (SCAG), the San Diego Association of Governments (SANDAG), the Orange County Transportation Commission, Los Angeles International Airport, Disneyland, Camp Pendleton, the Del Mar Race Track and various tourist and convention bureaus.

Seven groups of travelers were considered, the segmentation being partly due to differences in the sources of available information and in the level of detail of that information.

These seven segments are:

- Residents of the "LARTS" region (Los Angeles and Orange counties) traveling within that region. (LARTS is the Los Angeles Regional Transportation Study, a department of Caltrans. Detailed forecasts of travel from one zone to another are available from LARTS.)
- Residents of San Diego County traveling within that county. Data regarding these travelers was obtained from SANDAG.
- Visitors from outside of Southern California traveling to and from LAX by surface transport.
- Travelers from out of state, or out of the region, traveling into the region, the majority by automobile.
- Travelers crossing the border between San Diego County and the LARTS region who are not captured in any of the above categories. Travelers from downtown Los Angeles to downtown San Diego would be included here.
- Travelers to or from special areas such as Camp Pendleton or the Del Mar Race Track who are not adequately represented in any of the preceding categories.
- Induced travel, i.e., individuals whose travel would be in response to the deployment of the high speed train. This includes travel due to the novelty of the train, travel resulting from the easing of congestion and travel due to the relocation of economic and residential activity.

The California High Speed Train — Its Attractions and Ridership The forecast ridership of the Southern California high speed rail service is based on a service such as the Japanese bullet train or Shinkansen system, which has carried over two billion passengers safely and profitably over the past 19 years. The entire route is proposed to be physically separated (by underpasses or overpasses) from cross traffic, as well as from the road and rail traffic it parallels. With a maximum cruising speed of 160 mph, the service would offer several attractive marketing features:

- Frequent service between stations at half-hour intervals throughout the day with service every 20 minutes during morning and evening rush hour.
- On nonstop trains, a trip of slightly under one hour between the Los Angeles and San Diego stations.

- A trip of 15 minutes between LAX and downtown Los Angeles, compared to the current 35- to 55-minute trip time by road.
- Service to intermediate stations by "local" trains at least hourly and a Los Angeles-San Diego downtown-to-downtown trip of about one hour and fifteen minutes when two or three station stops are included. (No train would stop at all stations on any given run, but would make skip-stops to maintain the high speed advantage of the service.)
- Interior comfort, spacious seating, a quiet interior atmosphere, and well-maintained and serviced equipment.
- First class car seating and a snack and beverage service car for passengers.
- High reliability and predictability of service.
- Safe and smooth operation.

A major requirement of the forecasts prepared by Arthur D. Little, Inc., is that there be convenient access and parking for the automobile, and that a mix of improved public and private transit be made available by the beginning of service. AHSRC officials are working with both public and private organizations to satisfy this requirement.

Estimating Travel on the California High Speed Train

Market Areas Around Possible Station Locations Before specific travel estimates were made, the market areas around each potential station (to or from which trips are made) were defined. Travel between these market areas represents the total potential market for the high speed train. All other trips originating or ending outside a market area were excluded from the potential market.

The following points can be made about the concept of a market area for each high speed rail station:

- Not all travelers in the corridor are candidates for high speed rail service.
- Travelers whose origin and destinations lie close to train stations are more likely candidates than those whose origins and destinations are far from stations.
- The size of the market area within which travelers will consider high speed service as a reasonable alternative depends on the distance they intend to travel on the service. In other words, a person traveling 130 miles from origin to destination is more likely to travel to a station to take the service than a person traveling 40 miles from origin to destination.
- The size of the market area also depends upon the quality and cost of the transportation services available for riders to access stations, and on the purpose of the trip, whether for business, recreation, commuting or other.

Based on the preceding factors, the market areas around stations were defined as follows:

- Circles with a radius of five miles for any travel *within* the Los Angeles Regional Transportation Study (LARTS) region or *within* San Diego County region. These are generally short trips of less than 50 miles.
- Circles with a radius of 10 miles for those trips between the LARTS region and San Diego County, which are generally longer trips of more than 50 miles.

Only those riders who start their trips within one circle or market area and end them within another circle or market area are included in the potential ridership estimate forecast.

These are more limited market areas than are normally assumed in intercity travel forecasting or in reporting travel by mode. For example, the reporting of Amtrak's mode share in the Northeast corridor has generally included travel to and from entire metropolitan areas. Further, in the 1976 study by the Southern California Association of Governments, "San Diego-Los Angeles Corridor Study," the reported shares of travel for Los Angeles to San Diego trips (90% auto, 2-3% each for bus, train, and air) relate to an area that is not explicitly defined, but which clearly includes most of the Los Angeles and San Diego basins.

Total travel among market areas was arrived at by adding up those trips in the six categories of travel listed earlier (other than induced demand) which originate or end in a market area, resulting in a total number of trips estimated for 1980. These estimates were then increased by the forecast growth in population and travel per capita, resulting in an estimate of 875,000 trips per day between market areas for all modes of travel for 1988.

Percentage of Travelers Using the High Speed Service With the market defined, an estimate was developed of the share of that market that could be expected to accrue to the high speed rail service.

In addition, factors such as the experience with lower levels of service in the U.S. (such as less frequent and less reliable schedules, slower trains and the like) and information on the market share of the bullet train in Japan were also considered. Finally, market research using focus group meetings was conducted in Southern California to determine general public attitudes toward a high speed service and to test various frequency and fare assumptions. These focus group meetings were followed by a statistically random survey through telephone interviews seeking specific confirmation on attitudes and prices, and the likelihood that travelers would use high speed rail service.

Three sets of market share estimates were prepared by Arthur D. Little, Inc. These covered a range of values for underlying factors that were considered to be uncertain (e.g., energy costs, highway congestion and station access). One of these sets represents reasonable middle values of market share. It assumes that a differentiated fare structure will be used, with fares ranging from about 12¢ a mile to 27¢ a mile, with an average yield of 21¢ a mile. The following paragraphs focus on this middle or "most likely" forecast.

Estimating the California High Speed Train's patronage was then a matter of applying the expected percentage of market to the estimate of travel between specific market areas. The entire forecasting procedure resulted in the projected total daily trips by the bullet train. Annual ridership estimates were then derived from that data.

Specific station assumptions were made for purpose of these forecasts. If these sites are modified, adjustments in total ridership will be needed.

For example, magnitudes of passenger flows on selected links in the route are shown below. Again, specific numbers will depend on final selection of the station stops in each of the general areas described.

[redacted]

Projected Daily Passenger Flow on Selected Links in the Route

(base year 1988)

Link	*Passenger Flow ** *(1988)*
Between LAX and downtown LA	25.000
Between downtown LA and Orange County border	33 000
Mid-Orange County	27 000
Mid-San Diego County	25 000
Arriving San Diego	39.000

**Note Includes all passengers traveling on the link regardless of origin or destination*

Projected Number of People On and Off at Major Stations Daily*

(base year 1988)

LAX	25 000
LA Union Station	41 000
San Diego	39 000

**Note On offs equal two times the number of trips*

Projected Ridership and Revenues for the Service Based on the market area definitions and market share analyses previously described the ridership for the base year 1988 is estimated at about 100 000 riders per day or 12% of the travel among market areas The estimate of 100 000 trips includes both those boarding the train at the three stations shown above and those boarding the train at other stations

The 100 000-trips-per-day estimate is higher than the 60 000 originally projected by AHSRC in its analysis in 1982 due to changes in the assumption of station location alternatives made since that time leading to a substantial increase in the market for short trips It had been projected earlier that the potential market totalled 360 000 trips of which high speed rail service was estimated to garner 16% or 60 000 trips The same methodology has been used throughout the ridership projection process and the same market areas defined as five-mile-radius circles from points within the travel region and ten-mile-radius circles between the three main train station stops at LAX Los Angeles Union Station and Santa Fe Depot in San Diego

The ridership and revenue forecast as noted earlier was based on population and employment growth trends in the Los Angeles to San Diego Corridor on a computer-based analysis of present and projected traffic and market research conducted especially for this study involving focus group interviews as well as a random telephone survey and on extrapolations from experience in other areas where high speed rail services exist

Revenue estimates are based on the number of passengers forecast to use the service in 1988 on the distance they travel and on a fare structure similar to that used in the rail corridor between New York City and Washington where Amtrak operates frequent service (although this service is at lower speeds using older equipment on rougher tracks) The fare structure would yield an average one-way fare of $27 from downtown Los Angeles to downtown San Diego The possibility of offering first class tickets family or group rates round-trip discounts and other special fares was factored into the analysis The fare averages out in 1982 dollars to approximately 21¢ a mile

The potential passenger revenue attainable by this service in the first 10 years of operation assuming operation of the entire system in 1988 is shown in the table which follows

In addition it should be noted that the ridership forecasts for 1988 did not take into account the additional effect on travel caused by initiation of the California High Speed Train itself However experience has shown that deployment of a major transportation system in an area that needs it can generate significant amounts of "induced" demand that would not exist without the new system This "induced demand" may occur because travel in general will become easier and more convenient therefore inducing people to travel who normally would not have done so Also the ease of travel along the high speed rail line can be expected to encourage centralized development along the line adding to the potential users of the system Finally the high speed line will make convenient one-day trips possible throughout the region spurring recreational travel and the development of tourism as well as changes in business patterns

For each of the years after the system opens the induced growth in trips after the system opens was estimated by Arthur D Little Inc at 1% per year for 20 years This is a very conservative assumption well below the results of foreign and domestic experience following the introduction of new services

AHSRC has redistributed this induced growth to an increase of 2% in the first year of operation 3% in each of the two subsequent years 2% for the next two years and 1% for the next eight years and none thereafter again for a total of 20%

Growth forecasts for population income and employment in the area to be served indicate that a further 2 6% annual growth in passengers traveling on all modes of transportation is expected in addition to the increase from induced demand specific to the high speed train

It is assumed that the train will acquire a share of the increased travel proportionate to its market share in its first year of service

Year	*Passenger Revenue (millions)*	*Travel Growth Factor**	*Inflation Factor*	*Induced Growth*
1988	$ 515	base year	7% (1982-88)	- 0 -
1989	575	2 6%	7%	2%
1990	647	2 6%	7%	3%
1991	729	2 6%	7%	3%
1992	813	2 6%	7%	2%
1993	899	2 6%	7%	2%
1994	995	2 6%	7%	1%
1995	1 100	2 6%	7%	1%
1996	1 217	2 6%	7%	1%
1997	1 346	2 6%	7%	1%
1998	1 453	- 0 -	7%	1%
1999	1 570	- 0 -	7%	1%

**Note Excluding induced travel growth*

Source First Boston Corp and AHSRC

It should be noted that these are passenger revenues only and do not include ancillary revenues from such services as package express food service etc In addition these revenues represent the reasonable value from a range of possibilities As mentioned earlier factors which may affect this revenue forecast include the number and location of the stations the fare structure the frequency of express and local high speed rail service the quality and cost of station access and the degree of congestion on Interstate 5

Appendix IV (a)

Orient Express: Major Portion of Letter From Mr. G.M. Bather to D. McQueen.

20th June 1983

Dear Mr. McQueen,

Thank you for your letter of June 14th 1983. I enclose a copy of the Sea Containers Annual Report which has some relevant information.

Undoubtedly there is a huge demand for 'nostalgic/heritage' type transport. We are heading for 40 000 passengers in 1983 - an average load factor of around 80%. There is little doubt that we are also helping the public image of the national railways themselves.

However, against this must be set the huge capital cost of refurbishing and up-dating the engineering specifications of historic carriages. Our investment in the Venice Simplon-Orient-Express project is $25 million and the bulk of this was incurred on refurbishing 28 historic carriages. Our journey is 24 hours in length and means that we have been able to avoid restructuring carriages to provide showers/private toilets etc.

The Blue Train operation in South Africa is of interest. It carries 98 passengers per trip (against our 180) and is always fully booked. Fares are relatively low as it is Government backed and is deliberately run at a loss to draw tourists. Its journey is also 25 hours but it only runs at 50/60 mph (against our 70/90 mph).

In Canada you are presumably talking of long distances and slow speeds so that modern carriages perhaps with period decor will probably be the best.

Certainly our train is not transportation but an experience. For a heritage operation a promoter must not baulk at cost - the best quality has to be offered.

We have haulage agreements with the national railways on a carriage/kilometre basis. We also have maintenance agreements with them. We look after our own decor and cleaning. On-board staff is contracted from British Rail in the UK. On the continent on-board staff are directly employed and are to some extent unionised but operate according to our requirements -which involve working a much longer stretch at one time than national railways although hours worked per week are similar. Staff are hired on a seasonal basis usually six months at a time. (We run a reduced service from mid November to early March.)

Amazingly the main incentive for good work is pride in the product. All our staff whether directly employed, on contract from national railways, or merely providing us with a service for the national railways are excited and proud of the product. Railwaymen do know how to run railways - our infusion of capital, style, marketing and commercial know-how seems to marry perfectly with their operating skill. . .

Yours sincerely,

C.M. Bather
General Manager - Leisure Division
Seaco Services Ltd.

Appendix IV (b)

ORIENT EXPRESS:
EXAMPLE OF TIE-IN EXCURSION

Beaulieu

Situated in an area of outstanding beauty in the heart of Hampshire's New Forest, Beaulieu is the home of Lord and Lady Montague who live in the Great Gatehouse of Beaulieu Abbey, which was converted into a residence in 1538. Apart from the magnificent ruins of the 13th century abbey itself, together with an interesting exhibition of monastic life, Beaulieu is also justly famous for its National Motor Museum, founded by the present Lord Montague, which is one of the most comprehensive museums of its kind in the world. Over 200 vintage and veteran motor cars as well as commercial vehicles and motor cycles are to be seen here representing the story of road transport from 1895 up to the present day.

Among other items of special interest are a replica of a 1912 open-topped London Bus, as well as the late Sir Donald Campbell's 1961 Bluebird and radio controlled model Veteran Cars.

Departing from Waterloo Station on the Pullman carriages of the Venice Simplon-Orient-Express, lunch with champagne and wine is served en route, and afternoon tea is also served aboard on the return journey to London.

Fares
$165 per person, inclusive of train travel, lunch, tea, and guided tours.

Itinerary

Saturdays from 30 April to 12 November 1983

10.30	Check-in at Waterloo Station, London SE1
11.00	Depart for Brockenhurst in the pullman carriages of the Venice Simplon-Orient-Express. Lunch prepared by Prue Leith together with wine will be served en route to Brockenhurst.
13.00	Arrive Brockenhurst Station. Depart by Executive Coach through the New Forest to Beaulieu.
13.30	Arrive Beaulieu. Private conducted tour of the National Motor Museum, Palace House and gardens, Beaulieu Abbey Ruins.
15.15	Depart for Brockenhurst Station by Executive Coach.
16.30	Rejoin the Pullman carriages of the Venice Simplon-Orient-Express to return to London. Traditional English tea prepared by Prue Leith will be served during the journey.
18.20	Arrive Waterloo Station.

Appendix V

AUSTRALIAN NATIONAL RAILWAYS: INDIAN-PACIFIC EXPRESS

(1) Excerpts from Publicity Brochure:

The Indian Pacific which operates between Sydney and Perth is Australia's premier passenger train.

Travelling in each direction on a 3 961 km route from the Pacific to the Indian Ocean, the Indian Pacific traverses some of Australia's harshest but most impressive countryside during its 65 hour journey across the interior.

The Indian Pacific was introduced in 1970 following the completion of a standard gauge rail link between Sydney and Perth.

The Train

The Indian Pacific provides total first class luxury comfort for 142 passengers.

Passengers can travel in either roomette (one person) or twinette (two person) sleeping compartments.

Both feature folding tables, reading lights, wardrobe, hot and cold water, washbasin and toilet facilities.

A dining car provides three and four course meals which are included in the fare.

A luxuriously appointed club/lounge car provides a full drink service with ample space for relaxation.

General

Along the way, at specified places, sufficient time is available for passengers to leave the train and see something of the local area.

Announcements are made over the public address system stating how long the train will remain at certain points.

The facilities of the Indian Pacific are of world standard -- in fact the train has been listed as the second most luxurious train in the world.

The Indian Pacific
Route Sydney -- Perth
Distance 3 691 kilometres
Frequency three times weekly each way

All meals on Australian National services are prepared on the trains. And that includes cooking anything from boiled eggs to roast turkey.

If you think trains are just "hot pies and pasties" check out a typical menu on AN's Trans Australian of Indian Pacific services. Meals on these services are served in the train's dining car with a full silver service setting.

One of the nice things about dining on board AN trains is the opportunity to survey the beautiful countryside as you eat a freshly cooked meal and perhaps, sip your favourite wine or beer.

Many people say that dining on board AN's trains is an experience more in the elegant European tradition than in the casual Australian style.

Roast beef and turkey are standard evening fare, with potatoes, broccoli, peas or beans. Fruit is available for dessert, although trifle is often the favourite.

Many interesting beverages are also available.

Breakfasts aboard AN trains often supply the best culinary memories. A typical breakfast menu includes: pineapple, orange or grapefruit juice, a fruit cup, oatmeal or a dry cereal, steak or sausages with potatoes and gravy, eggs, poached, boiled and scrambled, bacon, toast with marmalade, and coffee, tea or milk.

Yes, seconds are available.

(2) Excerpts from Christy, Jim, "By Train Across Australia", Ka'na'ta (The Magazine of C.P. Air), July-August, 1983

Mealtime conversation was polite and everyone was neatly dressed, a major difference between train travel in Australia and Canada. On the Indian-Pacific I got the impression that everyone changes for each meal. In Canada your dinner mate usually wears the same jeans or stretch pants from Mission to Mississauga.

But there is probably a dining-sartorial equation. On Canadian trains eating is nothing special; in fact, it is something to be gotten out of the way as quickly as possible: indifferent food served by indifferent staff. On the Indian-Pacific it is a pleasure.

One should never travel any great distance on a train that does not have a lounge, or bar car. This has a lot less to do with drinking than conviviality. In the bar car everyone talks and only half the people drink. The only legitimate foreign tourist other than myself on the train was a Scotsman who designs airstrips in Saudi Arabia, for which he is paid obscene amounts of money. He gets one month off for every three worked and spends his holidays wandering around the world alone. He started talking to me about books and I soon realized there wasn't much he hadn't read. He affirmed my notion that the best-read people are never writers or anyone in any way connected with the book business.

Appendix VI

SOUTH AFRICAN NATIONAL RAILWAYS:
BLUE TRAIN: EXCERPT FROM PUBLICITY BROCHURE

The Blue Train was taken into service in 1972 to replce its illustrious predecessor which had plied between Johannesburg and Cape Town since 1939. Covering the 1 608 kilometres in some 26 hours in each direction, it is acknowledged as the acme of luxury in train travel. Two identical train sets were built by Messrs. Union Carriage & Wagon Co. Ltd., at their Nigel Works in the Transvaal.

The train provides the ultimate in air-conditioned, almost noiseless travel comfort for its 106 passengers and hand-picked train staff of 26. The Blue Train is virtually a luxury hotel on wheels, setting a standard of passenger comfort unsurpassed anywhere in the world.

Ten of the sixteen coaches are for passenger accomodation and, together with the lounge and dining cars, are carpeted edge-to-edge. The remaining four cars are the kitchen car, two luggage vans and the power car which provides all the power for the train with the exception of traction.

The train offers four types of accommodation (refer to sketches alongside and overleaf).

Every compartment and coupe throughout the train has an individual control console with a push button for compartment service, and control knobs for raising, lowering or tilting the Venetian blinds, selecting musical entertainment and radio news bulletins, and for temperature control. In addition, all four types of accommodation have hot, cold and iced drinking water on tap. There is also a shoe-cleaning service. Shoes which are placed in a container in compartments and coupes are removed by the bedding attendant from the corridor side, cleaned and replaced with no disturbance to the passenger. A microscopically thin layer of gold is diffused in the surface of every window to deflect heat and glare.

The superb dining car which seats 46 passengers in surroundings of restful luxury, has beautifully engraved doors at each entrance, natural timber table dividers and a dropped ceiling, providing a setting comparable to a top city restaurant. Lighting can be varied to suit the mood and the occasion.

Like the dining car, the lounge car too, has a dropped Afromosia timber ceiling and incandescent lighting over the bar with its wide selection of choice South African wines and other beverages. Incandescent lighting also runs along the sides and ends of the lounge car. The lounge car has a built-in automatic glass washer, as far as is known the only one of its kind on a train in the world.

Carpeting, curtains, floor-length drapes and loose chairs are in gold. Up to 34 passengers can relax in these elegant surroundings. Reproductions of paintings by the famous South African artist, Pierneef, adorn the lounge car, dining car and all compartments and coupes.

The heart of the Blue Train is the power car which has a 100 per cent stand-by power system, enough to light a medium-sized town and supplies electricity for lighting, air-conditioning, temperature and Venetian blind control, the hot and iced drinking water system, electric shaver outlets, the four entertainment channels for the whole train as well as the dining car and the kitchen.